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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

HEARINGS

BEFORE THE

SUBCOMMITTEE OF THE
COMMITTEE ON APPROPRIATIONS
UNITED STATES SENATE

NINETY-NINTH CONGRESS

SECOND SESSION

PART 1 (Pages 1-581)

DEPARTMENT OF THE ARMY
Corps of Engineers—Civil
DEPARTMENT OF THE INTERIOR
Bureau of Reclamation
FEDERAL ENERGY REGULATORY COMMISSION
TENNESSEE VALLEY AUTHORITY
U.S. NUCLEAR REGULATORY COMMISSION

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ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

THURSDAY, FEBRUARY 20, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2 p.m. in room SD–124, Dirksen Senate Office Building, Hon. Mark O. Hatfield (chairman) presiding.

Present: Senators Hatfield, Cochran, Abdnor, Kasten, Mattingly, Burdick, Sasser, and DeConcini.

DEPARTMENT OF THE ARMY—CIVIL

CORPS OF ENGINEERS—CIVIL

STATEMENTS OF:

ROBERT K. DAWSON, ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS)

LT. GEN. E.R. HEIBERG, CHIEF, CORPS OF ENGINEERS

ACCOMPANIED BY:

MAJ. GEN. HENRY J. HATCH, DIRECTOR OF CIVIL WORKS

DON CLUFF, CHIEF, PROGRAMS DIVISION, DIRECTORATE OF CIVIL WORKS

OPENING REMARKS

Chairman HATFIELD. The hearing will come to order.

This afternoon we begin our hearings on the 1987 budget request for programs and activities under the jurisdiction of the Energy and Water Development Subcommittee.

We are pleased to welcome as our first witnesses, representatives of the U.S. Army Corps of Engineers who will present an overview of their budget request for fiscal year 1987.

It is a special pleasure to have here today Mr. Robert K. Dawson, the Assistant Secretary of the Army for Civil Works. I want to congratulate you on your recent confirmation, and note that you are no longer "Acting" Assistant Secretary.

I also want to recognize Lt. Gen. E.R. Heiberg, who is no stranger to this subcommittee, and Maj. Gen. Henry Hatch, the Director of Civil Works for the Corps.

General Hatch, I believe this is your first appearance before our committee in your current position.

I again extend a warm welcome to each of you.

Secretary Dawson, you may proceed as you wish. We have your prepared statement and it will be printed in the record. You may summarize or highlight as you wish.

INTRODUCTIONS OF SUPPORTING WITNESSES

Mr. DAWSON. Thank you very much, Mr. Chairman.

We are pleased to come before you today to discuss our fiscal year 1987 budget recommendations. As you mentioned, I have with me Lt. Gen. E.R. Heiberg III, the Chief of Engineers, and also Maj. Gen. Henry J. Hatch, the Director of Civil Works, and the new Chief of Programs, Mr. Don Cluff.

I would like to note as well, Mr. Chairman, that seated behind me is the new Chief of Policy, Dr. Bory Steinberg, who, you will recall, sat at this table for many, many years, and has now moved into an expanded role as Chief of Policy. Also behind me are two members of my staff, my Deputy for Program Planning, Dr. G. Edward Dickey; and my Deputy for Budget, Mr. Steven Dola.

CRITICAL NEED FOR REVITALIZED CIVIL WORKS PROGRAM

This afternoon's appearance is my fifth before your subcommittee and the second as the lead Department of the Army witness. I have seen first hand just how responsive you and members of this subcommittee have been in adjusting to the new reality brought about by the severe budgetary situation which confronts this Nation.

I know that we can work together, build on the progress of the last several years, and take advantage of what is surely a great opportunity that has presented itself for the Civil Works Program of the Corps of Engineers. I am not at all sure that we will have such an opportunity again, Mr. Chairman, in the foreseeable future. It may well be now or never for the Army Civil Works Program.

If I could leave my prepared text for a moment, Mr. Chairman, and say that it is my judgment that a year from now, when we are back together, we will either be celebrating a revitalized program for the Corps' Civil Works Program, or we will be mourning over the withering away of that program. So much depends on whether we get a mandate from the Congress this year in the form of a new omnibus bill.

As you suggested, Mr. Chairman, I would like to proceed by having my prepared statement and that of General Heiberg placed in the record, and that we just summarize our statements. If time permits, General Hatch is prepared to report on the current prospects for obtaining signed agreements for the new construction starts included in the fiscal year 1985 Supplemental Appropriations Act, the so-called 41 new starts.

FISCAL YEAR 1987 BUDGET REQUEST

It speaks well for our program and the benefits that flow from it that General Heiberg and I are able to present a progressive Water Resources Development Program. We are able to do this even in the face of the stalemate that has existed over the program, and in spite of the Balanced Budget and Deficit Control Act.

The fact that the fiscal year 1987 budget includes a commitment for additional new starts shows that the administration believes pending legislation can be enacted which will seize the excellent opportunity to resolve the new starts and cost-sharing issues for the first time in nearly 15 years.

The principal reason we believe we can have a strong program, even in this era of budget restraints, is that the Army's Civil Works Program produces tangible, measurable benefits. This encourages program beneficiaries to contribute on a pay-as-you-go basis an increased share of the program costs. This principle of benefit-based financing is embodied in the 19 new construction starts proposed for fiscal year 1987, with a total project cost of $716 million, 37 percent of which will be funded by non-Federal sponsors.

The overall fiscal year 1987 program is predicated on Federal appropriations of some $3.8 billion and non-Federal contributions of $227 million. The budget request includes $26 million to be appropriated from the Inland Waterways Trust Fund as part of the follow-on funding for four lock and dam projects included in the fiscal year 1985 supplemental. Offsetting receipts that would be collected under existing law, $19 million, and under pending legislation, $203 million, would result in net Federal appropriations of just under $2.9 billion.

MAJOR FUNDING REQUIREMENTS

For the first time since fiscal year 1983, the level of new budget authority being sought for "Construction, general," will exceed $1 billion. Non-Federal cash contributions required under terms of existing and proposed agreements would add another $200 million.

The request of $1.4 billion for "Operation and maintenance, general," continues to be the single largest request in the Civil Works budget. Contingent upon passage of pending legislation this fiscal year that would authorize collection of port cargo fees, receipts of about $203 million are expected to be available for appropriation from the Harbor Maintenance Trust Fund in fiscal year 1987, thereby reducing appropriations for "Operation and maintenance, general," to just under $1.2 billion.

BUDGETARY FRAMEWORK

The fiscal year 1987 budget request for the Civil Works Program was formulated in anticipation of having to meet the maximum allowable Federal deficit of $144 billion for fiscal year 1987. Nevertheless, increased non-Federal contributions, anticipated to accrue from legislation now under consideration by the Congress, have permitted formulation of a stable 5-year Civil Works Program of new and on-going work, while Federal appropriations remain the same, or at slightly reduced levels.

Failure to enact an omnibus water resources development bill acceptable to the President, though, would negate much of what we and this subcommittee have started and would jeopardize the future of the overall Civil Works Program. Cost sharing and user fees will uphold the great work done by the subcommittee in the past, and allow it to continue even under ever increasing budgetary pressure.

FISCAL YEAR 1985 NEW CONSTRUCTION STARTS

An important milestone, Mr. Chairman, in the history of water resources development was reached last year under the leadership of this subcommittee. The fiscal year 1985 Supplemental Appropriations Act broke a decade-long stalemate over new constructions starts, signaling congressional recognition of the desirability of increased cost sharing in all phases of the Civil Works Program.

Accordingly, we are making strong and special efforts to carry out this law. We are applying major streamlining to the usual procedures, including concurrent reviews, rapid response to policy questions, and coordinating meetings in the field attended by all levels, from the district engineer to my own office. This is the effort that General Hatch is prepared to address if time permits.

STATUS OF FISCAL YEAR 1985 NEW STARTS

Preconstruction planning and engineering are proceeding to the point, in many cases, where it is feasible to execute a binding local cooperation agreement; that is, a definitive cost sharing and financing agreement with project sponsors. We are making it clear to local sponsors that legislation ultimately will determine the cost-sharing formulas. Pending final agreement between Congress and the President, cost sharing in S. 1567 is being used as the basis for negotiating cooperative agreements with local sponsors.

The fiscal year 1987 budget request includes follow-on funds for 40 of the 41 new construction starts included in the fiscal year 1985 Supplemental Appropriations Act. The administration has been generous in budgeting funds to carry out the Fiscal Year 1985 Supplemental Appropriations Act in anticipation of getting S. 1567 passed.

PROGRAM PERSPECTIVE

The fiscal year 1987 budget, like the budgets for the past 2 years, is predicated on increased cost sharing of all key program activities. Cost sharing allows us to better deal with Federal budget realities. It gives locals a much greater say, and they certainly are expressing themselves in this regard already. And it lends credibility to our program. If these were not solid projects, local sponsors would not be willing to pay their share. Three years of new starts under budgetary pressures attest to the importance of cost sharing.

In conclusion, Mr. Chairman, it has become abundantly clear that the Army's Civil Works Program is at a genuine crossroad. We are presented with an opportunity either to go forward in a positive way in the face of severe budget restrictions, or risk backsliding at a time when the Nation needs a good, sound water resources development program.

As so often in the past, this subcommittee will play a critical part in the decision. The budget you are about to consider is one that is in tune with today's budgetary realities. I am confident that it will receive your careful attention as it always has in the past, and I hope that it will merit your support.

CLOSING CONCERN

On a closing note, Mr. Chairman, I appeal to you and the members of the subcommittee to minimize the special treatment of some sponsors which goes beyond the flexibility allowed by generic legislation. Such proposals, while contributing to local development, reduce overall program consistency and equity, which are essential if we are to compete favorably during these times of budget constraints.

Mr. Chairman, I look forward to your and other committee members' questions. We will look to your judgment on whether we should proceed with General Heiberg first, or take questions first.

STATEMENT OF GENERAL HEIBERG

Chairman HATFIELD. General Heiberg, why don't you proceed to highlight your testimony.

General HEIBERG. Yes, sir.

Thank you, Mr. Chairman and members of the committee.

I will briefly highlight key points of my formal statement by comparing what we have accomplished in the past with the expected near future contributions, and then give you an overview of our proposed fiscal year 1987 programs. I will also discuss the impact of the Deficit Reduction Act on our program. A table summarizing the funding levels of the individual appropriation titles for the period fiscal years 1985 to 1987 is included with my formal statement.

Finally, I will discuss the benefits of the cost sharing agreements reached between the administration and the Senate majority leadership.

CONTRIBUTIONS OF NAVIGATION IMPROVEMENTS

During the first half of this century, we were primarily engaged in the development of the Nation's inland waterway systems. These systems have proven to be a tremendous boon. The Nation's waterborne commerce has expanded far beyond our projections at the time the port and inland facilities were built.

In 1983, 1.7 billion tons of waterborne commerce, slightly more than 7 tons per capita, were handled at Corps-maintained projects, with over 60 percent handled at the coastal harbors, one-third on the inland and intracoastal waterways, and the rest on the Great Lakes.

This history of growth, particularly on the inland waterways, verifies the value of our program to the users and to the Nation. The proposed increase in the existing fuel tax will be used to help fund further waterways improvement, which will help the users realize still more efficiencies and savings in transport costs. I expect these future investments to focus on incremental improvements to our existing waterways, and think that brand new projects, like the Tennessee-Tombigbee and the Arkansas River system, which were completely new, are unlikely to be built. The rate of return on incremental improvements, where we have existing traffic, will be greater.

FLOOD DAMAGE REDUCTIONS

After the enactment of the 1936 Flood Control Act, and with your committee's leadership and assistance, the Corps started to focus on flood damage protection as well as navigation. The new projects were designed to reduce flood damages that we had in the 1930's, 1940's, and 1950's.

Since 1945, the Corps has completed some 730 flood control projects, $7.8 billion worth over the past 10 years. Corps projects prevented an average of $10 billion worth of damage each year, more than the total cost of building such projects. Facts such as this give us confidence that there are sponsors willing and able to finance a greater share, particularly of our local protection projects.

WATER SUPPLY AND HYDROPOWER DEVELOPMENT

During the 1950 to 1970 time period, we started emphasizing water supply storage and hydropower at our Corps projects. Our success in the marketing of these outputs is evidence of both the value to the users and the foresight of this committee in funding these multipurpose projects over time.

NATURAL RESOURCE MANAGEMENT

What we have done, Congress and the Army, is impressive, but so is our Natural Resource Management Program. Last year, 50 million fishlings were released into the waters of the Pacific Northwest from fish hatcheries constructed and funded by the Corps' program. We manage over 450 projects with some 9 million acres of the Nation's prime water-oriented recreation opportunities. And over 3 million acres have been allocated for fish and wildlife management and over 1 million acres for forest management.

TIME FOR CHANGE

But that's all history. Today, projected deficits are forcing us to reevaluate Federal spending, as Secretary Dawson pointed out. If the Corps programs are to continue to serve the Nation in the future as well as they have in the past, the responsibility for funding this program clearly must be modified and the non-Federal share increased.

Since such legislation making the necessary modifications is now under consideration, we in the Corps are anxious to see it enacted so that we can get on with the business of implementing those water resource projects which provide needed national benefits.

FUTURE WORKLOAD

Over the next 5 to 10 years, most of our regular construction program will be concentrated on those projects funded by the fiscal year 1985 supplemental and the fiscal year 1987 new starts, as well as projects funded under the preconstruction planning and engineering program over the last 4 years.

These future projects are reflective of the country's current needs; many are projects recommended for implementation in feasibility studies completed during the 10 years following the last major authorization act. Our projects contribute to the economic and environmental well-being of our country. Once completed, the projects trigger benefits beyond the cost of implementation, and that skilled resource management gives us gains other than the planned vendible outputs.

FISCAL YEAR 1987 PROGRAM

This administration shares in the Corps' pride and sense of mission. I believe that the fiscal year 1987 budget, which the President has submitted, reinforces the commitment to the program and to the cost-sharing and user fee legislation currently under consideration by the Congress.

The budget request for the fiscal year 1987 Civil Works Program is almost $3.1 billion in Federal funds. Non-Federal contributions under terms of existing and proposed cost-sharing agreements will be $227 million, making the total Corps program just over $3.3 billion.

Assuming enactment of the pending cost sharing legislation this year, a subsequent budget transmission will propose appropriation of some $200 million in anticipated new receipts and reducing the appropriation funded by general revenue to $2.9 billion.

CONSTRUCTION, GENERAL ACCOUNT

The fiscal year 1987 budget request for "Construction, general," is $1.05 billion and, reflecting increased cost sharing, is to be augmented by $26 million in appropriations from the Inland Waterways Trust Fund and $216 million in non-Federal contributions.

Follow-on funding of $230 million is included for the projects started by the fiscal year 1985 supplemental appropriation. The budgeted amount will permit us to initiate 19 new construction starts and maintain schedules on all on-going construction projects and activities funded under this account.

OPERATION AND MAINTENANCE, GENERAL ACCOUNT

The fiscal year 1987 request for work under the "Operation and maintenance, general" account is $1.42 billion. This is an increase of about $100 million above last year. The increase is mostly attributable to activities and new projects that are coming on line.

A subsequent transmittal will propose appropriation of receipts from a new trust fund, which would be established, under pending legislation, to help defray the cost for the operation and maintenance of our port projects. This transmittal will request appropriation of $203 million in estimated receipts, and an equal reduction in the "Operation and maintenance, general" request to just over $1.2 billion, a level below that appropriated for fiscal year 1985.

MISSISSIPPI RIVER AND TRIBUTARIES (MR&T) ACCOUNT

For the MR&T Program, the $298 million budget request represents a decrease of almost $17 million from fiscal year 1986. Essentially, the decrease is attributable to a reduction in the funding requirements for the Old River Auxilliary Control Structure, which should be completed this November. That continues to be our single most important project in the Corps Water Resource Program.

The overall funding request is sufficient for normal operation and maintenance of the MR&T project, and for continued survey and construction schedules consistent with prior year performance and historic funding experience. While there are no fiscal year 1987 new starts, the MR&T budget request does include follow-on funding for 2 of the 41 new construction starts funded by Public Law 99–88.

GRAMM-RUDMAN REDUCTION—FISCAL YEAR 1986

I will briefly discuss our fiscal year 1986 program and the reductions we will achieve under the Gramm-Rudman-Hollings legislation. We in the Corps recognize that the Nation needs to get the growing deficit under control, and we are ready to do our part.

The fiscal year 1986 reduction in new budget authority is almost $122 million. As applied to the Civil Works Program, we will reduce by 4.3 percent the funds available to every program, project, and activity we are working on. While the reduction will have an impact on virtually every project, study, or activity, it is not of such a significant nature so as to create unsurmountable problems.

As can be expected, we will have some delays and not all things that have been programmed will get accomplished, at least to the extent scheduled. But, all in all, I think we can manage these reductions so that there will be little noticeable disruption to the programs nationwide.

Assuming that a supplemental is submitted, and Congress agrees with our request for a minimal transfer of funds to the "General expenses" account, we can avoid layoffs or furloughs at this time.

FUTURE DIRECTIONS

Despite the reduction in funds, I am optimistic about the future. Cost-sharing legislation and added program flexibility included in S. 1567 will provide the framework for developing the necessary partnership arrangements with the sponsors of our future projects. Those same reforms will allow us to proceed with this important national program at a fairly constant level, while reducing Federal expenditures.

We believe that increased non-Federal cost sharing has benefits which go beyond reducing Federal expenditures. For instance, I believe the planned projects will more closely reflect the needs and the financial and institutional capabilities of the specific sponsor. The change also will cause a shift to smaller, more easily financed projects, and the phased construction of larger projects.

During the next few years, we expect our construction program will be made up mostly of smaller scale flood control and commercial navigation projects. Primary development of new water supply and hydropower facilities may shift to the private sector unless incorporated into a multipurpose project. However, the Corps will still be the construction agent for additional water supply storage or power facilities that are added to existing Corps projects.

Both the share of project costs and the cost of financing will affect how fast the project can be implemented. The ability to fully fund a project or to do it in stages stems from such institutional constraints on the sponsor as debt ceilings and the willingness of the beneficiaries to assume additional costs.

The willingness to assume additional debt will depend on the potential for change in the available income from local, State, and Federal sources, and the attitude of local interests toward raising additional revenue from increased taxes or sales of assets.

PROGRAM CONCERNS

Local concerns will now more closely parallel those of the Federal Government. Both entities will be struggling to balance continuing and new commitments to resource development and other program priorities against a constrained revenue outlook. Those benefits that I just described will allow our program to thrive even as we face severe budget constraints.

However, if we do not get those agreements in the form of legislation, I am also deeply concerned that we will turn into an operation and maintenance and rehabilitation organization, rather than concentrating more on new starts, which is what the Nation needs.

Mr. Chairman, this concludes my statement, and I, also, am ready to respond to your questions.

[The statements follow:]

STATEMENT OF ROBERT K. DAWSON

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

INTRODUCTION

I am pleased to appear before your subcommittee today to discuss the Army's Civil Works program and Fiscal Year (FY) 1987 budget recommendations. The Chief of Engineers, Lieutenant General E. R. Heiberg III, the Director of Civil Works, Major General Henry J. Hatch, and the new Chief of Programs, Mr. Don Cluff, are with me and will assist in presenting testimony. I would like to note as well, Mr. Chairman, that seated behind me are the new Chief of Policy, Dr. Bory Steinberg, my Deputy for Program Planning, Dr. G. Edward Dickey, and my Deputy for Budget, Mr. Steven Dola.

This afternoon's appearance is my fifth before your subcommittee, and the second as the lead Department of the Army witness. I have seen first hand just how responsive members of this subcommittee have been in adjusting to the new reality brought about by the severe budgetary situation which confronts this Nation. I know we can work together, build on the progress of the past several years, and take advantage of what surely is a great opportunity that has presented itself for the Civil Works program of the Corps of Engineers.

With your permission, Mr. Chairman, I would like to proceed by asking that my complete statement and that of General Heiberg be placed in the record of these hearings. I would like to summarize portions of my complete statement and I ask that the Chief be permitted also to summarize his statement, following which we will be available to answer the subcommittee's questions.

My statement addresses these topics:

> Fiscal Year 1987 Budget Request;

> Fiscal Year 1985 New Construction Starts;

> Additional Cost Sharing Applications;

> Municipal and Industrial Water Supply Initiative;

> Regulatory Reform; and

> China.

FISCAL YEAR 1987 BUDGET REQUEST

Overview

It speaks well for Army Civil Works that General Heiberg and I are able to present a progressive water resources development program, given the stalemate that has existed over the program and the Balanced Budget and Deficit Control Act, Public Law 99-177. The fact that the FY 1987 budget includes a commitment for additional new starts shows that the Administration believes pending legislation can be enacted which will seize the excellent opportunity to resolve the new start and cost sharing issues for the first time in nearly 15 years. One principal reason we believe we can have a strong program, even in this era of budget restraints, is that the Army's Civil Works program produces tangible benefits. This encourages program beneficiaries to contribute, on a pay-as-you-go basis, an increased share of program costs. This principle of benefit-based financing is embodied in the 19 new construction starts proposed for FY 1987 with a total project cost of about $716 million, 37 percent of which will be funded by non-Federal sponsors. The new construction starts are shown on Table A, which is attached to this statement.

The FY 1987 program is predicated on Federal appropriations of some $3.08 billion and non-Federal contributions of $227 million. The budget request, which is summarized by appropriation account in Table B, which is attached, includes $26 million to be appropriated from the Inland Waterways Trust Fund, as part of the follow-on funding for the four lock and dam projects included in the FY 1985 Supplemental. Offsetting receipts that would be collected under existing law, $19.1 million, and under pending legislation, $203 million, would result in net Federal appropriations of just under $2.9 billion.

For the first time since FY 1983, the level of new budget authority being sought for Construction, General, will exceed $1.0 billion. Non-Federal cash contributions required under terms of existing and proposed agreements would add another $200 million. The request of $1.4 billion for Operation and Maintenance, General, continues to be the single largest request in the Civil Works budget. Legislation is pending that would authorize collection of fees based upon the value of commercial cargo loaded or unloaded at U. S. ports. These receipts would be made available in a Harbor Maintenance Trust Fund to help pay the cost of maintaining our Nation's ports. Contingent upon passage of such legislation this fiscal year, receipts of about $203 million are expected to be available for appropriation from the Harbor Maintenance Trust Fund in FY 1987, correspondingly reducing appropriations for Operation and Maintenance, General, to just under $1.2 billion.

Relationship to Budget Deficit Reductions

Reductions of $121.2 million are being applied to the new budget authority made available by FY 1986 appropriations, as required by the Balanced Budget and Emergency Deficit Control Act, Public Law 99-177. While the reductions will impact all programs, projects, and activities, we should be able to achieve the targeted outlay reductions by slipping some scheduled work and deferring some other scheduled work to FY 1987. Tables listing the amounts to be sequestered in FY 1986 by program, project, or activity were furnished to the subcommittee Chairman on January 31, 1986. Given our management flexibility, we should be able to meet all important commitments without any noticeable adverse effects.

The President's FY 1987 budget, including the request for the Civil Works program, was formulated in anticipation of having to meet the maximum allowable Federal deficit of $144 billion for FY 1987 as established by Public Law 99-177. Nevertheless, increased non-Federal contributions, anticipated to accrue from legislation now under consideration by the Congress, have permitted formulation of a stable Five-Year Civil Works Program of new and ongoing work while Federal appropriations remain at the same or slightly reduced levels. Failure to enact a water resources development bill acceptable to the President, though, would negate much of what we and this subcommittee have started and would jeopardize the future of the overall Civil Works program.

As shown in Table B, the FY 1987 program is based on appropriations of $229 million from existing and proposed trust funds, appropriations of $2.85 billion from general appropriation funds, and non-Federal contributions of $227 million. Some of these amounts anticipate enactment of legislation. The importance of the non-Federal contribution will increase in subsequent years as we move ahead with new construction work and user fee receipts increase as a result of the normal growth of commerce or, in the case of the inland waterways fuel tax, an increase in the tax rate itself. In spite of the overall reduction in the Federal budget for FY 1987, Army Civil Works continues to enjoy strong program funding as a result of anticipated increases in non-Federal participation. If these non-Federal payments are not realized, there will not be continued Administration support for Federal funding. Moreover, whatever Federal funds are made available will be, of necessity, diverted toward maintenance of existing projects as opposed to undertaking anything new.

Pressures to reduce the budget deficit, of necessity, must bring about changes in the way we do business. We should not implement projects or ancillary works that are not economically justified and environmentally sound, nor should projects with lower priority outputs, such as recreational boating and beach erosion control, be funded at this time. Consistency is important; thus, individual exceptions to policy, such as relief from the share of costs borne by project sponsors, must be avoided. Cost sharing principles and contractual conditions of agreements must be the same for all projects. Indeed, the credibility and future survivability of the Army Civil Works program are based on consistency in treatment. If the subcommittee aids us in maintaining consistency by avoiding legislatively mandated exceptions, we can have a strong program. In an era where both the Administration and Congress are engaged in an unprecedented search for ways to cut Federal spending, favored treatment of some sponsors, on the other hand, invites loss of Federal funding support. Finally, we should avoid authorization of new programs or expansion of existing programs. Such proposals, while contributing to local development, may be counter to the national objective of reducing Federal expenditures and involvement.

FISCAL YEAR 1985 NEW CONSTRUCTION STARTS

Implementing Procedures

An important milestone in the history of water resources development was reached last year under the leadership of this subcommittee. Enactment of Public Law 99-88, the Supplemental Appropriations Act, 1985, broke a decade-long stalemate over new construction starts, signaling Congressional recognition of the desirability of increased cost sharing in all phases of the Civil

Works program. Accordingly, we are proceeding in an orderly manner to implement this law. Preconstruction planning and engineering are proceeding to the point in many cases where it is feasible to execute a binding Local Cooperation Agreement, that is, a definitive cost sharing and financing agreement with project sponsors. We are making it clear to local sponsors that legislation ultimately will determine the cost sharing formulas. Pending final agreement between Congress and the President, cost sharing in S. 1567 is being used as the basis for negotiating cooperative agreements with local sponsors. For those projects where engineering and design is sufficiently advanced, we are negotiating with project sponsors to develop binding agreements so construction can be initiated using FY 1985 Supplemental or other available funds.

For those projects where additional engineering and design is required and the design and costs are not well enough established to enter into a legally binding agreement--there are several instances where the plan has not been defined--we are seeking Letters of Assurance from project sponsors confirming not only their willingness to participate in project construction but also the applicable cost sharing criteria and financing arrangements applicable to both parties. Once signed, the letter serves as sufficient justification for the Corps to use available funds for project preconstruction planning and engineering. The Department of the Army plans to program these projects as new construction starts once engineering and design work is completed and budgetary ceilings and priorities permit their inclusion in our new starts program.

Status Report

The FY 1987 budget request includes follow-on funds for 40 of the 41 new construction starts included in Public Law 99-88, the Supplemental Appropriations Act, 1985. A review of the feasibility study on one project concluded it was essentially a single-purpose water supply project and hence, as stated in the preamble of the Water Supply Act of 1958, should be the responsibility of non-Federal interests. In all other cases, however, we are moving toward completion of at least some elements of each project.

Engineering and design funds are being requested for six of the new construction starts included in P. L. 99-88. Construction should be initiated on the other 34 projects, starting either this fiscal year with FY 1985 Supplemental and/or FY 1986 appropriations or in FY 1987 with FY 1987 appropriations.

We have long recognized that increased cost sharing and financing during construction will necessitate changes in the way sponsors approach water resources development. Accordingly, we have turned to the Interstate Conference on Water Problems, ICWP, the national association of state, regional, and local water policy officials, to assist us in identifying potential contractual problems of sponsors and the Corps' role in resolving, or at least minimizing, those problems. A series of four regional workshops was held on water project financing in 1984, followed up by a Water Project Financing Roundtable sponsored by the ICWP. The Roundtable was attended by representatives from involved Federal agencies, the Office of Management and Budget, senior staff representatives from the House and Senate Committees on Appropriations, Public Works, and Interior, and representatives from the investment banking community. Thanks to the help of the ICWP, we now have a better understanding of these potential problem areas.

We have just completed a series of meetings with those District and Division offices involved with implementing the FY 1985 new construction starts. Discussions to date indicate that, in the case of high cost projects, deep draft commercial harbor and channel projects, for example, the sponsors' financial capabilities will result in staged construction of those projects. We also have identified a need to establish interest-earning escrow accounts to meet non-Federal financial requirements as well as the need to undertake additional value-engineering studies to assure development of the most cost-effective plan which is consistent with available financial resources.

Relationship to Existing and Pending Legislation

Implementation of the new construction starts funded in P. L. 99-88 is dependent upon compliance with existing legislative milestones and enactment of certain pending legislation. The 1985 Supplemental established two milestones. First, May 15, 1986, is the date on which 21 projects included in the act become authorized for construction if the pending water resources development bills are not enacted. Second, by June 30, 1986, an acceptable, legally binding contract must be signed if funds appropriated by P. L. 99-88 are to be used to continue work on the 1985 new construction starts other than the inland waterway projects that do not require contracts. Alternative funding would be required to continue engineering and design or initiate construction after that date if an agreement is not signed by then.

We hope to have 34 projects under construction in FY 1987 if new authorization legislation consistent with the Administration and Senate majority leadership agreement of last June is enacted. The four lock and dam projects do not require contracts, as I have noted, since the equivalent of non-Federal contributions will be appropriated from the Inland Waterways Trust Fund. These projects will be initiated subsequent to enactment of the agreed upon increase in the inland waterways fuel tax.

Our ability to implement the 13 harbor improvement projects is also contingent upon enactment of pending legislation. In many cases port authorities or states may be willing to sign agreements in the absence of legal authority to levy fees to collect revenue sufficient to offset their share of project costs. However, I cannot, in good faith, start construction without the assurance that fees based on .04 percent of the value of the cargo loaded or unloaded at our Nation's ports would be available in a Harbor Maintenance Trust Fund to offset part of the cost of maintaining our Nation's ports. Use of these receipts would make more general revenue funds available for new construction.

The authorities for both these revenue raising measures are included in the water resources development bills now pending in Congress, but unless a law is enacted in a timely manner, construction of the 16 harbor and 4 lock and dam projects will be delayed.

ADDITIONAL COST SHARING APPLICATIONS

The FY 1987 budget, like the budgets for the past two years, is predicated on increased cost sharing of all key program activities, not just the new construction starts and subsequent operation and maintenance of those projects. Prior to last year, however, the Appropriations Committees, while recognizing the need for increased cost sharing, had deferred implementation of such proposals until the authorizing and financing committees had completed their own review and acted. This has now been done by both Houses and, while there are differences in various specifics, both authorization bills include financing and cost sharing arrangements. Therefore, to assure equity in treatment among sponsors for comparable phases of the program, I have taken actions to institute cost sharing this fiscal year for Feasibility Phase Studies, the Continuation of Planning and Engineering effort, and the Continuing Authorities Program.

Feasibility Study Cost Sharing

Since we instituted the two-phase study process in 1984, we have entered into conditional cost sharing contracts with the sponsors of 17 ongoing Feasibility Phase Studies. Only one potential sponsor did not sign an agreement to cost share the follow-on study to the reconnaissance phase study when such cost sharing was instituted. Since both pending bills require non-Federal contributions, the cost sharing provisions of these and all future contracts will become effective on March 15, 1986.

Continuation of Planning and Engineering

Work accomplished under both the Continuation of Planning and Engineering and Advance Engineering and Design programs is similar. Heretofore, however, only costs incurred under the Advance Engineering and Design program were cost shared as part of the total cost for project implementation. Therefore, to assure equality in treatment among sponsors for comparable phases of the Civil Works program, all obligations incurred under the Continuation of Planning and Engineering program after October 1, 1985, also will be included in the costs to be shared when the project is implemented.

Continuing Authorities Program

Work under the Continuing Authorities Program consists of a variety of activities, including flood control and commercial navigation, very much the same as that accomplished on specifically authorized studies and projects. Thus, to assure consistency among programs and equity among sponsors of comparable work, the cost sharing principles applicable to specifically authorized projects also have been applied to studies and projects initiated under this program after January 1, 1986, and for construction contracts to be awarded after May 15th of this year.

MUNICIPAL AND INDUSTRIAL WATER SUPPLY INITIATIVE

Over the past year, we have continued to make excellent progress in the municipal and industrial water supply initiative mentioned in our appropriations testimony the previous two years. One part of this initiative involves reforms that increase recovery of past Federal investments in municipal and industrial water supply storage within the authority of the 1958 Water Supply Act, while not imposing unfair burdens on project beneficiaries. Most non-Federal sponsors of water supply storage have been very cooperative with us in this regard. The fact that we have been very successful in recovering the levels of past Federal investments envisioned by the Water Supply Act confirms the wisdom of decisions made by the subcommittee to fund multipurpose projects providing water supply storage.

Another part of our initiative is to aggressively market already built, but as yet unsold, water supply storage space. This involved a nationwide review of existing and potential water users, institutional arrangements, and state enabling legislation to identify potential customers. Individually tailored information packages were provided to each potential customer. As a result of these efforts over the past two years, we have reduced the inventory of unsold water supply storage by more than 40 percent, placing more than 600,000 acre-feet of storage under contract. In addition, we have identified potential customers for all but about 2.5 percent of the municipal and industrial water supply storage built by the Corps of Engineers nationwide. Again, our success here is evidence of the wisdom of the subcommittee in funding these projects in the past.

At the same time, we have increased significantly the amount of Federal costs recovered under these contracts within the discretion offered by existing authorities, while avoiding unfair burdens on project beneficiaries. These efforts not only produce additional revenues for the Federal Government, they also lead to improved management of water supplies, increased attention to conservation, less waste, and reduced pressure for new construction. The cooperative attitude of many state and local entities in working with us in these important endeavors has been gratifying.

REGULATORY REFORM

The FY 1987 regulatory program budget request of almost $53 million is just over the amount appropriated for FY 1986. The regulatory request is relatively small in the context of the overall Civil Works budget. Its size, however, belies its importance to the public and to the economy of the United States. Decisions made by Corps of Engineers regulators on permit applications literally affect billions of dollars of private construction work. The quality and timeliness of the decision process has a major economic impact as well as a major impact on how the public views the effectiveness of government.

Balancing private applicants' needs with overall public needs for maintaining the integrity of the Nation's water resources often results in project modifications through permit decisions. These modifications can result in additional expenditures by applicants in the thousands, or in some cases, millions of dollars. In addition to the expense of project modifications, applicants for major projects may have similar size expenditures for environmental studies required in the Corps permit process to identify potential environmental impacts.

The regulatory budget supports a highly professional staff who process approximately 13,000 permit applications per year. We are proud of the excellent way these public servants discharge the very difficult balancing required by the law and regulations. We have developed management methods such as nationwide and regional permits for minor projects with minimal environmental impacts. We have reduced the average time to process individual permit applications by 46 percent, from 130 days to 70 days, since we began our regulatory reform efforts in 1981. Prior to our regulatory reforms, many applications took years to process, sometimes resulting in applicants withdrawing the application and not pursuing the project. Even if the applicant could withstand the delays, the additional time often caused extra costs far out of proportion to the public benefits gained.

The regulatory program is presently operating at an improved efficiency while maintaining important environmental safeguards. This has allowed for protection of vital water resources while minimizing the financial impact on the private sector. More improvements in the program, however, are still needed. Even slight reductions in the regulatory budget will jeopardize positive reforms with commensurate negative impacts on the regulated public. Any budget decrease would result in increased permit processing times causing associated negative impacts to the U. S. economy and weakening public perceptions of the Federal government.

We continue to be very active in the area of regulatory reform. Regulatory reforms are a result of implementation of directives issued in May 1982 by the Presidential Task Force on Regulatory Relief. The overall objective of Corps 404 regulatory reform is to provide the public with a program that offers applicants a fair, balanced, and prompt response while maintaining environmental safeguards. We are ever conscious of the goal of the Clean Water Act to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Most of our reforms have had positive impacts on the environment as well as on the regulated public. For example, the program is now more predictable and less burdensome on the regulated public. This reduction in delays and red tape has resulted in increased voluntary compliance. Increased compliance leads to an increase in the extent of responsible environmental management, that is, fewer potential environmental modifications escape review.

Another example of the positive environmental effects of our reforms involves the general permit program. This program, which has been greatly expanded since 1981, allows projects with minimal environmental impacts to proceed without individual review. General permits are issued on a nationwide, regional, and state or local level after careful review and comment by the general public and interested environmental groups and agencies. The positive environmental aspects of the general permit program are a result of shifting staff time and effort from minor activities to controversial projects which may involve greater impacts on the environment. Also, applicants may reduce the scope of their projects, and thereby the environmental impacts, to meet the specifications of the general permit. This is advantageous to applicants because it facilitates immediate approval and authority to proceed with the project.

This spring, we plan to publish final regulations which consolidate most of the reforms implemented to this point. This consolidated rule will include such reforms as the nationwide general permit program that authorizes tens of thousands of activities per year without significant environmental impacts.

Notwithstanding our existing success with reforms, we will continue to pursue rigorously some unfinished reforms such as simplifying and clarifying the 404(b)(1) guidelines with which each project must comply and simplifying the 404 state transfer regulations to encourage states to assume the 404 program as Congress intended. We look forward to active and productive interaction between the Army and EPA on these efforts.

CHINA

From time to time, this subcommittee has made a point of inquiring into the foreign activities of the Army Corps of Engineers. This afternoon I would like to bring you up to date on cooperative activities with the People's Republic of China (PRC). For almost two decades, each President has emphasized the importance to our foreign policy and national security goals of improved relationships with China. Pursuant to the 1979 Science and Technology Agreement between the PRC and the United States, there have been 26 Protocols executed between various Chinese ministries and agencies of the United States Government. At the present time, the Department of the Army, under the guidance of the Department of State and with the oversight of the Office of Management and Budget, is in the final stages of developing a Protocol on scientific and technological cooperation and laboratory activities in the field of water resources with the Ministry of Water Resources and Electric Power of the PRC. In addition, an Annex to an existing Protocol on the Science and Technology of Transportation between the U. S. Department of Transportation and the PRC Ministry of Communications, which would facilitate scientific and technological cooperation and information exchange in the areas of ports and waterways, also is under consideration. General Heiberg and I are planning a trip this year to execute the Protocol with the Ministry of Water Resources and Electric Power and to explore further specific opportunities for mutually beneficial scientific and technological cooperation.

I want to emphasize to this subcommittee that we have been proceeding in a very deliberate, cautious, and exploratory manner in our dealings with the Chinese water resources agencies. It is a long-term, mutually beneficial relationship that we seek, one which must be fully consistent with United

States foreign policy and national security goals. Our limited contacts to date indicate that there are a variety of specific research areas in which the Corps can benefit from Chinese work and previously collected data in water resources. Based on the Corps' long and distinguished experience in water resources development, the Department of the Army has a unique opportunity to participate in scientific and technological cooperation and information exchanges with the Chinese Government.

CONCLUSION

In developing the FY 1987 Civil Works Budget, Mr. Chairman, it has become abundantly clear that the Army Civil Works Program is at a crossroads. We are presented with the opportunity either to go forward in a positive way in the face of severe budget restrictions or we can risk sliding backward at a time when the Nation needs a good sound water resource development program. As so often in the past, this subcommittee will play a critical part in the decision. The budget you are about to consider is one which is in tune with today's budgetary realities. I am confident it will receive your careful attention and, I trust, will merit your support.

TABLE A
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS - CIVIL WORKS
FY 1987 RECOMMENDED NEW CONSTRUCTION STARTS
(DOLLARS IN MILLIONS)

PROJECT TYPE/NAME	STATE	FY 1987 BUDGET REQUEST	TOTAL FIRST COST	FEDERAL FINANCING		LOCAL FINANCING	
				TRAD.	PROP.	TRAD.	PROP.
Flood Control							
AGANA RIVER *	GUAM	0.70	5.15	4.14	3.86	1.01	1.29
FOURCHE BAYOU *	AR	0.76	29.60	19.71	18.26	9.89	11.34
GREAT BEND	KS	2.60	59.30	46.50	43.53	12.80	15.77
HALSTEAD *	KS	1.10	7.75	7.00	5.81	0.75	1.94
LAKE WICHITA,HOLLIDAY CREEK *	TX	0.70	43.10	32.00	30.00	11.10	13.10
MT. ST. HELENS SED. CONTROL	WA	17.00	169.00	148.00	**148.00 **	21.00	21.00
PAJARO RIVER	CA	0.50	5.84	2.10	1.82	3.74	4.02
REDBANK AND FANCHER CREEKS *	CA	2.00	73.50	61.30	55.20	12.20	18.30
REVERE BEACH	MA	0.70	8.08	4.04	5.17	4.04	2.91
SO. FORK ZUMBRO R.,ROCHESTER *	MN	1.40	70.90	59.87	53.00	11.03	17.90
SOUTH QUINCY D&LD *	IL	1.00	12.90	12.60	9.67	0.30	3.23
SOWASHEE CREEK *	MS	0.90	19.00	12.20	11.25	6.80	7.75
THREEMILE CREEK *	AL	2.30	20.45	10.49	9.47	9.96	10.98
SUBTOTAL		31.66	524.57	419.95	395.04	104.62	129.53
Commercial Ports							
DELAWARE RIVER VIC. OF CAMDEN	NJ	2.65	4.76	4.41	3.31	0.35	1.45
JACKSONVILLE HBR., MILL COVE * a/	FL	2.00	4.00	4.00	4.00	0.00	0.00
OAKLAND OUTER HARBOR *	CA	2.50	28.10	19.80	14.90	8.30	13.20
PONCE HARBOR	PR	2.00	10.35	9.77	6.36	0.58	3.99
PORTSMOUTH HARBOR *	NH&ME	3.00	19.02	19.02	12.37	0.00	6.65
SUBTOTAL		12.15	66.23	57.00	40.94	9.23	25.29
Multipurpose							
FRANCIS E. WALTER DAM MODIFICATION	PA	3.00	125.00	125.00	14.40	0.00	110.60
TOTALS FOR 19 PROJECTS		46.81	715.80	601.95	450.38	113.85	265.42
AS PERCENT OF TOTAL FIRST COST			100.0	84.1	62.9	15.9	37.1

* Authorized in S.1567 AND H.R.6. ** As authorized in PL 99-88.

NOTE: All costs are at 1 October 1985 price level and include allowances for inflation through the construction period.

a/ Mitigation of damages attributable to existing project.

TABLE B
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS - CIVIL WORKS
FY 1987 CIVIL WORKS PROGRAM
(DOLLARS IN MILLIONS)

	FEDERAL FUNDS				NON-FEDERAL FUNDS		
	TRUST FUNDS				RIVER AND HARBOR CONTRIBUTED FUND b/		
APPROPRIATION TITLE	INLAND WATERWAY	HARBOR a/ MAINTENANCE	GENERAL FUNDS	TOTAL FEDERAL BUDGET REQUEST	AUTHORIZED	ANCILLIARY	TOTAL PROGRAM FUNDING
GENERAL INVESTIGATIONS	-	-	127,000	127,000	9,000	-	136,000
CONSTRUCTION, GENERAL	26,000 c/	-	1,046,500	1,072,500	200,000	16,000	1,288,500
OPERATION & MAINT., GEN	-	203,000	1,217,000	1,420,000 d/	-	1,000	1,421,000
FLOOD CONTROL, MR&T	-	-	298,000	298,000	1,000	-	299,000
GENERAL EXPENSES	-	-	115,000	115,000	-	-	115,000
FLOOD CTRL. & COASTAL EMERG	-	-	25,000	25,000	-	-	25,000
REVOLVING FUND	-	-	12,000	12,000	-	-	12,000
PERMANENT APPROP.	-	-	9,000	9,000	-	-	9,000
TOTAL	26,000	203,000	2,849,500	3,078,500	210,000	17,000	3,305,500
OFFSETTING RECEIPTS							
UNDER EXISTING LAW	-	-	19,100	19,100			
PROPOSED LEGISLATION	-	203,000	-	203,000			
NET TOTAL	26,000	0	2,830,400	2,856,400			

a/ Pending legislation, if enacted in FY 1986, would result in the collection of $203 million in receipts in FY 1987, which upon appropriation from a proposed Harbor Maintence Trust Fund, would be used to reduce the O&M, General Appropriation.

b/ Authorized - The non-Federal cash contribution required under terms of existing and proposed agreements.
Ancilliary - Estimated cost of unauthorized work requested by non-Federal interests and done on a reimbursable basis.

c/ For follow-on work on the four lock and dam new construction starts included in the FY 1985 Supplemental Appropriations Act.

d/ Includes $12.5 million to be derived from the Special Recreation Use Fee account.

STATEMENT OF LT. GEN. E.R. HEIBERG III

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

INTRODUCTION

Mr. Dawson, the Assistant Secretary, has focused on the importance of the Water Resource Development bills, now under consideration by the Congress, to our program. I will expand on that theme by detailing some of the positive impacts that those bills should have on the various phases of our program. However, I first want to compare what we have accomplished in the past with the expected near-future contributions and then provide more detailed information on our proposed FY 1987 program. I also will discuss the effects of the deficit reduction act. A table summarizing the funding levels of the individual appropriation titles for the period FY 1985-1987 inclusive, is attached for the Subcommittee's reference. It includes the sequestrations of the FY 1986 appropriations submitted by the Administration. Finally, I will discuss the future of our program once the new cost sharing has been enacted into law.

CONTRIBUTIONS OF THE CIVIL WORKS PROGRAM

Navigation and Flood Control

The Civil Works program of the Corps has made significant contributions to the development and conservation of this nation's natural resources. During the period 1920-1960 we were primarily engaged in the development of the Inland Waterway System on the Mississippi and Ohio Rivers and the Intracoastal Waterways. Expansion of this system continued with new locks and dams on the Columbia and Arkansas Rivers during 1940 through 1970. For those segments of the system that have been in operation for 20 years the expansion of the nation's economy has resulted in waterborne commerce far beyond our projections at the time they were built. In 1983, with 1.7 billion tons of waterborne commerce, more than 7 tons for every U. S. citizen were handled at Corps projects. Of this amount, over 60 percent (over 1 billion tons) was handled at coastal harbors, one-third (about 560 million tons) on the inland and intracoastal waterway system, and the rest (about 130 million tons) on the

Great Lakes. The principal commodities moved were petroleum products, coal, iron, and steel, which together accounted for almost 2/3 (62 percent) of the total. Over 150 million tons of traffic moved on the Ohio River System alone in 1983, and preliminary projections indicate inland waterways tonnage in 1985 will be the highest ever recorded. I wanted you to have those impressive numbers, well beyond (in the aggregrate) what we had originally forecasted. The history of growth on any waterway segment is a common story of slow starts, and a strong finish! The Arkansas (McClellan-Kerr) waterway, after only 13 years of operation, has already reached 85 percent of its ultimately projected tonnage. Right on course. This growth in waterway tonnage verifies the value of the waterways to the users. The proposed increase in the existing fuel tax will be used to help fund further improvements to the waterways; improvement that will help the users realize still more efficiencies and savings in transportation costs. We expect these future investments to focus on incremental improvements to existing segments of the waterway system. Projects like the Tennessee-Tombigbee and the Arkansas which were completely new waterways with no existing commerce and traffic patterns are unlikely to be built. The rate of return (time value of money) on the incremental improvements will be greater.

After the Congress passed the 1936 Flood Control Act, the Corps started to focus on flood damage prevention as well as navigation. In the beginning the new flood control projects were designed to reduce the urban and agricultural damages that were being experienced in the 30's, 40's and 50's. Since 1945, the Corps has completed some 730 flood control projects at a cost of $7.8 billion. In the period FY 1975-1984, Corps projects prevented nearly $100 billion in flood damages, an average of $10 billion per year. Compare that $10 billion annual savings with the $7.8 billion total cost! Now that is a story I wish someone would focus on . . . it is facts such as this that gives us confidence that the sponsors will be willing and able to finance a greater share of our local protection projects.

Water Supply and Power

During the 1950-1970 time period we began emphasizing provision of water supply storage and the generation of hydropower at Corps projects. We now have nearly 8 million acre-feet of municipal and industrial water supply storage space in 105 lake projects, all of which are operational. There are seven more dams now under construction that will increase the water supply inventory by 1.4 million acre-feet, another 1/6. The total storage of over 9 million acre-feet represents an investment cost just under $1.2 billion, but it is enough water to supply the annual water needs of over 10 million households. As Secretary Dawson pointed out, we have been successful in aggressively marketing the unsold water supply storage to assure its best use. The success is evidence of both the value to the users and the foresight of the Subcommittee in funding these multi-purpose projects over time.

By the end of FY 1984, we also had 70 hydropower projects in operation, with a total installed generating capacity of almost 20 thousand megawatts. Those Corps projects produce 30 percent of the hydropower produced in the U.S., making the Army the largest producer of hydropower.

These facts are impressive, but our natural resources management program also is one in which we can take pride. We manage more than 450 projects with a total of over 9 million acres of land and water. These projects offer excellent water-oriented recreation opportunities and in 1985, accommodated over 500 million recreation days of use, which equates to an average of two visits a year by every citizen. While this level of visitation is truly remarkable, revenues collected under the Land and Water Conservation Act of 1965, as amended, amounted to only some 10 percent of our operational costs for FY 1985. Over 3 million acres of the land and water at our projects are allocated to fish and wildlife management and over 1 million acres of land are allocated to forest management. We have set aside specific project areas which are managed for spawning and nursery areas for fish and shellfish, for habitat for both game and non-game wildlife and for preservation of endangered and threatened species. Also, in 1985, over 50 million juvenile salmon, steelhead, and trout were released into the waters of the Pacific Northwest from hatcheries constructed and funded by the Corps of Engineers.

FLOOD DAMAGE PREVENTION AND EMERGENCY RESPONSE ACTIVITIES

Another important Corps contribution is the assistance and services we provide our citizens following many of the natural disasters that take place in various regions of the Nation. Our expertise in this type of work is recognized worldwide. When asked, we provide assistance to other nations, such as to Mexico after the earthquake which occurred last fall.

Flood Damage Prevention

During calendar year 1985 Corps projects prevented $10.8 billion in flood damages. Most of the damages prevented were in Indiana, Illinois, Ohio, Louisiana and Mississippi. Major damage also occurred in Texas and Wyoming due to flash flooding. Almost every state in the Upper Midwest suffered with problems from severe storms and widespread flooding. For example, severe flooding in the Wabash River basin (Indiana and Illinois) struck late last winter. Corps projects in the basin prevented an estimated $110 million in damages. The flood wall at Vincennes, Indiana, alone prevented $50 million in damages. Record to near-record flooding also occurred along portions of the Illinois River and the Mississippi River at Chester and Thebes, Illinois. Once again, the Lower Mississippi River Valley projects worked well as over $9.5 billion in flood damages were prevented in Louisiana and Mississippi. But "damages prevented" do not tell the whole story, as this Committee knows. The positive effects of reliable flood protection on the health and welfare of the cities and the Nation is hard to measure, but they are there. Again these gains reinforce the worth of flood control and the practicality of expecting non-Federal interests to contribute an increased share of costs for such projects.

Flood Emergency and Disaster Response Activities

In calendar year 1985, the Corps provided technical assistance, and flood fighting equipment and materials to Federal, state, and local entities in response to flood problems on the Mississippi River mainstream and tributaries (February and March 1985) and across the midwest from the Lower Great Lakes to the Ohio River Valley (January-May 1985). Work on the Great Lakes included initiation of several Advance Measures projects in response to record elevations for several of the lakes. Then late this fall, record flooding impacted in several major river basins in West Virginia, Pennsylvania, Virginia, and Maryland. Presidential Disaster Declarations were made for small portions of Virginia and Pennsylvania, and 29 counties in West Virginia, where the majority of damages occurred. The Corps responded with extensive manpower to assist Federal, state, and local flood fight and recovery efforts. As a result of the West Virginia declaration, the Corps has undertaken nearly $6 million worth of contracting and other support services under FEMA's authority in providing disaster relief. Under the Corps PL 84-99 authority, a quarter million dollars in emergency response and recovery activities will be accomplished. In addition, the Corps immediately undertook efforts to reopen navigation along the Monongahela River; many sunken barges had made several of the locks and dams inoperable. Five Corps districts from three divisions were involved in this effort.

However, this was the year of the hurricane. Six significant hurricanes struck the Nation, doing more than $3 billion in damages in the south and east. Hurricane Bob moved across Florida, as a tropical storm, then hit South Carolina with 75 mph winds on June 25, killing one and causing $20 million in damage. Hurricane Danny hit Louisiana on August 15 with winds up to 100 mph, and later spawned tornadoes in Alabama. Danny caused more than $50 million in damage and killed three. Hurricane Elena battered the Gulf Coast for several days before hitting Mississippi on September 2 with 125 mph winds. Over 1 1/2 million people were evacuated, 500,000 of them twice. Damages exceeded $1 billion and three people were killed. Hurricane Gloria swept the east coast from North Carolina to Maine, on September 26-27. Nearly 1 million people were evacuated. There were six deaths and damages were more than $1 billion. Hurricane Juan hit the Louisiana coast at the end of October, causing major flooding throughout several of the lower parishes. The Corps provided assistance to local interests in keeping pumping operations and hurricane protection works operational. The remnants of Juan drifted to the northeast and were a significant factor in the record flooding which developed in West Virginia, Maryland, Pennsylvania, and Virginia, in early November. The estimated damages from this event approached $1 billion. Hurricane Kate hit the Florida panhandle in late November, causing four deaths and extensive power outages.

In response to these damaging storms, the Corps has committed about $1 million and over 2,000 mandays of effort for emergency operations and rehabilitation of damaged flood control projects under Public Law 84-99. Our work, in support of FEMA's Public Law 93-288 authority, has included preliminary damage assessments, disaster recovery reports, and debris removal operations. Through the end of December, over 10,000 mandays of effort and $6 million in FEMA funds had been committed to accomplish these tasks. During this same period, we have accomplished Advance Measures projects on the Great Lakes and continued to repair flood control projects damaged by floods last winter and spring. These activities have required the commitment of over $10 million under Public Law 84-99 and nearly 6,000 mandays of effort. These recovery efforts continue as we prepare for the next flood season.

As I mentioned earlier the Corps also was an active participant in the clean up after the earthquake which caused widespread damage and appalling human suffering to the people in Mexico City. The Corps of Engineers was asked by the State Department to provide two types of advisory assistance to the earthquake recovery effort. The first was advice in the use of construction equipment and the second was on geotechnical evaluations. With respect to the construction effort, the Corps of Engineers was represented on damage assessment teams organized under the direction of the State Department. The teams assessed the requirements for rubble removal, demolition of damaged structures, and the need for additional U. S. Government resources. In addition to the construction advice, the Corps of Engineers participated on a U. S. National Academy of Sciences team evaluating the overall impacts of the earthquake.

NEAR FUTURE CONTRIBUTIONS

Source of Future Workload

Over the next five to ten years, most of our regular construction program will be concentrated on those projects funded by the FY85 Supplemental and the 19 new starts included in the Army's FY 1987 budget request. In addition to these projects, we will, among other things, be working on some of the projects which have been funded under the preconstruction planning and engineering program during the last 4 years; projects that could be implemented once authorized and ready for construction.

Contribution

These projects are reflective of the country's current needs. Many are projects recommended for implementation in feasibility studies completed during the 10 years following the last major authorization act. These projects will provide the nation an estimated $800 million in annual flood damage prevention benefits, reduce the nation's transportation costs by $3.4 billion, and provide some $2.3 million acre feet of storage for Municipal and Industrial water supply.

Most of the projects are for local flood protection. The investments for flood control are comparatively small on an individual project basis, but significant from a total Federal and non-Federal investment standpoint. Improvements to existing coastal harbors and certain locks and dams on the Inland Waterways are much smaller in project numbers but represent the largest total investment facing both the Federal and non-Federal interests. Cost sharing of the capital costs over time has to happen, if Federal expenditures are to be kept within a realistic budgetary framework.

FISCAL YEAR 1987 PROGRAM

FY 1987 Program and Budget Request

As you can tell, I am proud to be associated with this meaningful program. It is rewarding to know that our projects contribute to the economic and environmental well being of the country. Once completed, the projects trigger benefits beyond the cost of implementation since effective resource management results in gains other than the authorized project outputs. And, I am happy to reiterate Secretary Dawson's view that the Administration shares in that pride and sense of mission. I believe the FY 1987 budget which the President has submitted reinforces the past commitments to the program and to the cost sharing legislation under consideration in the Congress.

The FY 1987 budget request for the Civil Works programs amounts to almost $3.1 billion in Federal Funds. Non-Federal contributions under terms of existing and proposed cost sharing agreements will amount to $227 million, resulting in the overall funding of the Corps program to be just over $3.3 billion. I will cover a few of the budget highlights at this time.

Additional information on the budget is provided in the Detailed Summary which also is being submitted for the record.

Construction, General

The FY 1987 budget request for Construction, General is slightly over $1.07 billion of which $26 million would be appropriated from the Inland Waterways Trust Fund. This is only $100 million more than the FY 1986 appropriation and includes follow on funding of $230 million for 38 of the 41 new construction starts included in the FY 1985 Supplemental Appropriation Act (PL 99-88) but not funded in FY 1986. The budget also includes funds for 19 new construction starts and other new work such as dam safety assurance projects which involve increasing the existing spillway capacity or modifications based on seismic considerations.

We are also requesting $48 million under the Construction, General account for the Continuing Authorities Program. This request reflects application of the same type of cost-sharing proposals being applied to the regularly authorized projects. Study cost sharing on a 50-50 basis will be applied to the detailed project studies phase of the flood control, navigation, and beach erosion control authorities. The initial appraisal and reconnaissance phases will continue to be conducted at full Federal expense. Sharing of a project's capital costs generally is comparable to that being proposed for regularly authorized projects, based on output.

Operation and Maintenance

The FY 1987 request for work under the Operation and Maintenance, General account is $1.42 billion. This is only $100 million more than the level of appropriations for the last several years. Legislation is pending that, if enacted in FY 1986, would generate sufficient fees in FY 1987 to offset up to 40 percent of the costs to maintain our coastal and Great Lakes harbors. The Administration proposes that the collected funds be transferred from a Harbor Maintenance Trust Fund to the Operation and Maintenance, General account. This would permit an equal reduction, now estimated at $203 million, in general funds required for this account so that the net appropriation would total some $1.2 billion or some $100 million less than appropriated during the last two years. The program request basically provides sufficient funds for the continued operation and maintenance of our projects. This includes $420 million for dredging, basically the same level as that scheduled for accomplishment in FY 1986. There are small program increases as the result of maintenance requirements (other than dredging) for the Gulf Intracoastal Waterway, on the Kanawha, Mississippi, Monongahela, and Ohio Rivers and at Black Rock Channel/Tonawanda and the Chicago Harbors. We again are proposing to increase the number of projects in caretaker status to six. Three projects already are being funded at the caretaker level because their commercial tonnage does not justify the continuation of regular operation and maintenance activities.

With the increased awareness of the need to evaluate and repair older structures, we have included some $53.2 million in this account for the major rehabilitation or replacement of our projects. This includes follow-on funding required for the major rehabilitation of two harbors, three locks and dams on the Illinois Waterway and one lock and dam on the Mississippi River and $14.5 million is for new starts on eight lock and dam projects and two bridges. As an adjunct to our major rehabilitation program, we are continuing a major research program addressing the problems associated with the repair, evaluation, maintenance and rehabilitation of existing structures. The goal of this research program is to develop improved or new techniques, capabilities, and even materials to achieve savings and efficiencies that will greatly reduce our expenditures for the major rehabilitation of our projects. Budgeted in FY 1987 for the fourth year of this six year research program is about $7.8 million. I anticipate we will get a number of dollars back for each of those research dollars.

The Corps National Emergency Preparedness Program, for which $13.5 million is budgeted under this account, encompasses emergency planning functions beyond the expected military support missions for mobilization and readiness. Activities involved are responsive to needs resulting from national emergencies -- for example, national water and support resource shortages, catastrophic earthquake, nuclear power plant accident and others. This Corps program provides a construction support capability both stateside and overseas that promotes a credible national defense. The program also provides a Civil Works capability that is equally important to the Nation for response to and recovery from other national emergencies. Key to both of these missions is the availability of personnel capable of rapidly concentrating their efforts to support the military and civil sectors during a national emergency. Executive Order 11490, as amended, provides authority to undertake planning for Continuity of Operations of the Corps of Engineers, including development of emergency relocation sites, emergency communications, alternate files and other contingency requirements. I want to reemphasize that this program helps us to be ready to provide nationwide engineering, construction, and real estate assistance during any national or regional emergency requiring federal repsonse.

Flood Control, Mississippi River and Tributaries (MR&T)

For the MR&T program, the $298 million budget request represents a decrease of almost $17 million from the FY 1986 appropriations. Essentially, the decrease reflects a reduction in the funding requirements for the Old River Auxiliary Control Structure. Construction there is scheduled for completion late this calendar year. The overall funding request is sufficient for normal operation and maintenance of the MR&T project, and for continued survey and construction schedules consistent with prior year performance and historic funding experience. While there are no FY 1987 new starts, the MR&T budget request does include follow on funding of $1.3 million for two of the 41 new construction starts funded by PL 99-88.

General Investigations

The FY 1987 budget request for the General Investigation program is $127 million, about $2 million less than that appropriated for FY 1986. Last year's appropriation reflected the requirement for non-Federal interests to cost-share the feasibility phase study. However, implementing the cost-sharing on 15 March 1986 rather than 1 October 1985 requires reprogramming of the FY 1986 funds for some feasibility phase studies in order to maintain reasonable schedules. The 209 studies and projects being budgeted under the survey and preconstruction planning and engineering programs in FY 1987 is only slightly less than the number (227) now scheduled for work in FY 1986. Some are now being funded under the Construction, General account by virture of PL 99-88.

A new line item has been added to the General Investigations account. Under the program, Cooperation With Other Federal Agencies, States, Non-Federal Interests, and Foreign Governments, an amount of $250,000 is being requested for expenses associated with, and which will be incurred as a result of, certain cooperative efforts with foreign governments. Over the course of many years, the Corps has provided technical advice and assistance to developing foreign nations, generally on a reimbursable basis, through various U.S. programs and agencies such as the U.S. Trade and Development Program, the U.S. Agency for International Development, or through U.S. participation in multi-national organizations such as the United Nations Development Program. In all these cases, the Corps' technical assistance and advice has been provided in order to promote the export of U. S. architectural, engineering, construction and/or related services to the host country.

In recent years, the Corps also has been requested by various foreign governments to participate in mutually beneficial scientific and technological information exchange programs, joint research and development activities, and various other collaborative activities in water resources science and technology which improve U.S. knowledge and expertise while assisting foreign governments. Since each country that participates in these bilateral exchanges obtains benefits, each side is expected to pay the expenses incurred by its participation in these activities. This type of cooperative effort involves the People's Republic of China and other more developed countries. The Administration has endorsed the new line item funding request for expenses associated with cooperative activities that directly benefit U.S. domestic Civil Works programs. Such activities may, in the future, also lead to reimbursable technical assistance that will provide opportunities for U.S. businesses.

Perspective

As Mr. Dawson has indicated, the effort to obtain signed agreements with the sponsors of projects funded as new starts in the FY 1985 Supplemental Appropriation Act (PL 99-88) is moving ahead. Nevertheless, I am concerned over the potential hold up that could be applied to the new starts for the coastal harbors. It is not clear at this time whether the port authorities will sign an agreement without the legal authority to levy fees and collect revenues sufficient to offset the cost of bonds used to finance their share of the project costs. As Mr. Dawson has indicated, the port people are looking to implement their projects in stages. This may help them absorb their financing costs. However, the question still remains whether current revenues available to the ports are sufficient to cover the first stage of development or whether State assistance will be needed in the absence of legislation permitting the imposition of user fees.

A similiar concern on the part of the Administration applies to the Inland Waterway system. There is an immediate need for capital improvements to the existing system. Construction new starts for four such projects was included in PL 99-88. Implementation is estimated to cost $966 million of which 50 percent or $483 million is to be appropriated from the existing Trust Fund. Four other such projects are in the study or preconstruction planning and engineering stages now. Future investment costs for these four totals $455 million. Concurrently, expenditures to rehabilitate our locks and dams continue, reflecting the age of these ~~pro~~jects. Over the past three years, our budget request for major rehabilitation under our Operation and Maintenance program included funding of such work to the waterways system. FY 1986 appropriation included $5.3 million of a total $90.7 million investment for projects on the Upper Mississippi River. The FY 1987 budget is no exception. Some $12 million is being requested to initiate the upgrading of the electrical and mechanical facilities at four locks and dams and the structural rehabilitation of two locks and dams, all on the Mississippi River. We also are requesting almost $8 million to initiate major rehabilitation of two bridges over the Chesapeake and Delaware Canal, also part of the Inland Waterway system. Total cost of this new work is estimated at $68.5 million. Given this cost scenario, the Administration has endorsed legislation that, if enacted, will provide additional receipts to cover these and all future expenditures necessary for the planning, preconstruction planning and engineering, construction, rehabilitation and/or modification of the existing waterway projects. Accordingly, during FY 1986, we are undertaking some land acquisition, relocations and the necessary engineering and design to assure initiation of construction of the four lock and dam projects funded by PL 99-88 as soon as is feasible. However, actual construction will be contingent upon enactment of the sought-after legislation.

DEFICIT REDUCTION FOR FISCAL YEAR 1986

I will now shift focus to our FY 1986 program and the reductions required by the Deficit Reduction legislation. We in the Corps recognize that the nation needs to get the budget deficit under control and we are ready to do our part. That is not to say that the reductions will be painlessly integrated. There will be some pain, but I feel that we have sufficient management flexibility to be responsive to the intent of both the act and our program commitments. Let me add that new authorizing legislation is absolutely essential if we are to have a strong program in the future. The Administration's efforts in seeking additional non-Federal funds for these projects, once legislatively implemented, will allow our program to proceed on schedule at reduced Federal cost.

Funding Impact

The FY 1986 reduction in new budget authority is almost $122 million. As applied to the Civil Works program, the funds made available from the FY 1986 appropriations will be reduced by 4.3 percent. And while the reduction will have an impact on virtually every project, study and activity, it is not of such a significant nature so as to create insurmountable problems. As I said, we will have some delays and not all things which have been programmed will get accomplished - at least to the extent scheduled. But all in all, I believe we can manage these reductions so that there will be little if any noticeable disruption to the program. Assuming the Congress agrees with our request and enacts a FY 1986 Supplemental approving a minimal transfer of funds to the General Expense account, we do not expect layoffs or furloughs at this time.

The reductions in new budget authority shown in the attached table will be reflected by a reduction in the level of obligations incurred in FY 1986 and a reduction in the anticipated unobligated carryover into FY 1987. This will result in lower than anticipated outlays for FY 1986 and FY 1987.

Programming Considerations

In summary, we will slip some of the scheduled work into FY 1987 but I doubt that the public will perceive any reduction in the quality or quantity of services rendered. Certainly, anything that needs to get done, will get done. Some projects will be stretched out and some contracts slipped or deferred, but we will use our common sense to pick the appropriate work to be delayed. That's our commitment and I have no hesitation in stating it. Basically, work schedules will be followed, to the extent possible. But, where the reduction in funds to a specific project results in a ridiculous situation such as having funds to dredge only a portion of a channel, we will reprogram money.

Future Impact of Deficit Reduction Act

As is apparent from our FY 1987 budget request, we are able to continue a substantial program which includes 19 new construction starts, as well as a strong pre- and post-authorization planning program. The 1987 program is predicated, of course, on realization of the non-Federal cost sharing agreed to by the Administration and the Senate majority leadership last summer. Without enactment of authorizing legislation in accord with that agreement, we will not be able to have a reasonable construction program which will allow us to follow through on the commitments that will be generated by our cost shared preauthorization studies as well as from the many Continuation of Planning and Engineering (CP&E) studies funded [illegible] the FY 1987 budget.

FUTURE DIRECTIONS

Implications of Cost Sharing

New cost sharing legislation will provide the framework for developing the necessary partnership arrangements with the sponsors of our future projects.

We believe that increased non-Federal cost sharing will result in projects more closely reflecting the needs of the specific sponsor, and a higher percentage of authorized projects being implemented. It should also cause a shift to smaller, more easily financed projects and the phased construction of larger projects.

Along with the two-phased study process initiated in FY 1984, cost-sharing of the feasibility phase study will assure a more effective, participatory role by the sponsors, and will cause the study effort to be focused on the evaluation of alternatives that are more affordable and more tailored to the sponsor's financial and institutional capabilities. This should produce authorized plans that can be implemented with the full support and participation of the sponsor.

The differences in the degree of cost sharing by non-Federal interests among the various project outputs reflect the extent of output vendibility, and conversely the role of the Federal Government in developing those outputs or services. During the next few years we expect the make-up of our construction program to shift to smaller scaled projects, made up mostly of flood control and commercial navigation projects.

Both the share of project costs and cost of financing will affect the speed with which a project will be implemented. The ability to fully fund a project, or to do it in stages, stems from such institutional constraints on the sponsor such as debt ceilings and the willingness of the beneficiaries to assume additional costs. The willingness to assume additional debts will depend on the value and ability to realize immediate benefits, the income available from local, state and Federal sources and the attitude of local interests toward raising additional revenue from increased taxes or sales of assets.

Local concerns will now more closely parallel those of the Federal Government. Both entities will be struggling to balance continuing and new commitments to resource development and other program priorities, against a constrained revenue outlook. Nonetheless, Mr. Chairman, I am very pleased that the strong benefits alluded to earlier will provide a basis for cost sharing and user fees that allow the Civil Works program to thrive even in the face of severe budgetary constraints. However, if we don't get it, I am very concerned the result will be an emphasis on operation, maintenance, and rehabilitation, rather than new starts, and we won't be able to do the kind of job the Nation needs.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS - CIVIL WORKS
SUMMARY OF PROGRAM AMOUNTS FOR FISCAL YEARS 1985, 1986, AND 1987
(DOLLARS IN THOUSANDS)

ACCOUNT TITLE	FY 1985 (APPROP.)	FY 1986 APPROP.	FY 1986 DEFICIT REDUCT. [a]	FY 1986 ADJUSTED BUDG. AUTH.	FY 1987 BUDGET REQUEST
General Appropriations					
General Investigations	141,400	128,972	5,494	123,478	127,000
Construction, General	955,300 [b]	919,345	39,515	879,830	1,072,500 [b]
Operation & Maint., General	1,307,600	1,319,973	56,725	1,263,248	1,420,000 [c]
Flood Control, Mississippi R. & Tribs.	321,800	314,760	13,535	301,225	298,000
General Expenses	115,000	107,000 [d]	4,601	102,399	115,000
Flood Control & Coastal Emerg.	50,000	25,000	1,075	23,925	25,000
Revolving Fund	0	7,000	301	6,699	12,000
Subtotal, Gen. Approp.	2,891,100	2,822,050	121,246	2,700,804	3,069,500 [c]
Permanent Appropriations	13,065	9,000	0	9,000	9,000
Subtotal, Fed. Budget Authority	2,904,165	2,831,050	121,246	2,709,804	3,078,500
Rivers & Harbors Contributed Funds	49,729	96,000	0	96,000	227,000
TOTAL PROGRAM	2,953,894	2,927,050	121,246	2,805,804	3,305,500

[a] Reductions are to be reflected in anticipated obligations to be incurred in FY 1986 and unobligated carryover into FY 1987. This will result in a reduction in FY 1986 outlays of $86.3 million and in FY 1987 outlays of $35.2 million.

[b] Includes $7.8 million (FY85) and $26 million (FY87) to be appropriated from Inland WW Trust Fund.

[c] Pending legislation, if enacted in FY 1986, would result in the collection of $203 million in receipts in FY 1987, which upon appropriation from a proposed Harbor Maint. Trust Fund, would be used to reduce the O&M, Gen. appropriation.

[d] Supplemental to transfer $3.0 million from O&M, General account is to be submitted by the Administration.

18 February 1986

DETAILED SUMMARY OF CIVIL WORKS PROGRAM

FISCAL YEAR 1987 BUDGET

TOTAL FISCAL YEAR 1987 CIVIL WORKS BUDGET

The FY 1987 budget request of $3.079 billion for the Civil Works Program is based on appropriation of $26 million from the existing Inland Waterways Trust Fund and $203 million from a proposed Harbor Maintenance Trust Fund, plus appropriation of $2.85 billion from general appropriation funds. This amount, together with $227 million in non-Federal contributions under terms of existing and proposed cost sharing agreements, will result in the overall funding of the Corps program of $3.306 billion.

ACTIVITIES UNDER THE GENERAL INVESTIGATIONS APPROPRIATION

Overall Request

The General Investigations budget request for FY 1987 is $127,000,000, a decrease of $1,972,000 from the FY 1986 appropriation of $128,972,000.

Surveys and Planning

Navigation, Flood Damage Prevention, Shoreline Protection, Comprehensive, and Special Studies. The budget request for these studies is $47,594,000, a decrease of $288,000 from the FY 1986 allocation of $47,882,000. This request would fund 142 studies, including 30 study completions. The budget request for surveys includes $9,956,000 as the Federal share for 51 feasibility phase studies. These feasibility phase studies are follow-ons to the reconnaissance phase studies that were funded in FY 1984, FY 1985, and FY 1986.

Review of Authorized Projects. The FY 1987 budget request is $669,000, an increase of $99,000 over the FY 1986 allocation. Included in the total is

$245,000 to complete the restudy of three deferred projects, $424,000 to continue one and complete two reviews of completed projects, and $200,000 to complete the review of 40 projects for possible deauthorization.

Coordination Studies with Other Agencies. Our budget request of $6,750,000 is an increase of $980,000 over FY 1986 allocation. Included in this category is $2,900,000 for the programs of Special Investigations and FERC Licensing. Another major part of this request, $3,000,000, is for Planning Assistance to States, with which we will provide assistance to all 50 States, the Pacific Islands, and Puerto Rico. Our assistance will allow the States to become more effective partners in resolving water problems.

Legislative Phase I Stage of Advance Engineering and Design. Legislative Phase I projects are not authorized for construction, and require additional formulation studies of potential projects. As a part of the Phase I study process, alternative solutions recommended by the survey report plan are carefully reevaluated, and changes may be recommended. The FY 1987 budget request includes $2,935,000 to continue two studies. This is a decrease of $86,000 from the FY 1986 allocation of $3,021,000.

Advance Engineering and Design. The FY 1987 budget request for Advance Engineering and Design (AE&D) is $5,339,000, a decrease of $3,380,000 from the FY 1986 allocation of $8,719,000. This request would initiate two projects and continue 14 others, of which six will be completed.

Continuation of Planning and Engineering Studies. The FY 1987 budget request for Continuation of Planning and Engineering Studies is $24,553,000, a decrease of $6,732,000 from the FY 1986 allocation of $31,285,000. This request would fund 43 studies, including twelve for completion and nine new starts.

Collection and Study of Basic Data

The FY 1987 budget request of $12,840,000 is $1,285,000 greater than the $11,555,000 allocation for FY 1986. The activities which have the largest dollar amounts in this category are Flood Plain Management Services, $8,800,000, and Coastal Field Data Collection, $1,800,000. Other activities, which total $2,240,000, include Precipitation, Hydrologic, Transportation, Environmental Data, and International Waters Studies; Stream Gaging; and Scientific and Technical Information Centers.

Research and Development

The budget request for Research and Development under the General Investigations appropriation is $23,000,000, which is an increase of $3,000,000 over the FY 1986 allocation of $20,000,000. The FY 1987 request will permit progress in all research areas. Funds totaling $12,185,000, a decrease of $1,775,000 from the FY 1986 allocation of $13,960,000, are included under other appropriations for Research and Development work closely related to other activities.

ACTIVITIES UNDER THE CONSTRUCTION, GENERAL APPROPRIATION

Overall Request

The FY 1987 budget request for Construction, General is $1,072,500,000 including $26,000,000 to be derived from the Inland Waterways Trust Fund, an increase of $153,155,000 over the FY 1986 appropriation of $919,345,000. The request contains $46,810,000 for 19 new start construction projects, one of which will also be completed. Funding of the new construction starts reflects the cost-sharing and financing concepts agreed to by the Administration and the Senate Majority leadership.

Continuing Construction Projects

The FY 1987 budget request includes $896,987,000, including $26,000,000 to be derived from the Inland Waterways Trust Fund, to maintain schedules, insofar as possible, for 123 continuing construction projects, three reimbursement projects, and three projects authorized for engineering and design and land acquisition only. This is an increase of $85,585,000 from the FY 1986 allocation of $811,302,000. The request will permit the completion of five projects.

Major Rehabilitation

The Major Rehabilitation program covers significant one-time structural repairs on completed projects that cost in excess of $5,000,000 for an individual project. The FY 1987 budget request includes $26,870,000, a decrease of $17,000 from the FY 1986 allocation of $26,887,000, for five continuing projects in this program. This remedial work will restore structures to an adequate operating condition, substantially increase their physical life, and permit continued effective realization of their benefits. Effective in FY 1985, new start major rehabilitation projects are budgeted under the Operation and Maintenance, General appropriation.

Dam Safety Assurance

The Dam Safety Assurance program provides for modification of completed Corps dam projects which are potential safety hazards in light of present-day engineering standards and knowledge. The FY 1987 budget request includes $34,960,000, an increase of $24,410,000 over the FY 1986 allocation of $10,550,000. Four specific projects are recommended as continuing Dam Safety Assurance projects and a total of $13,960,000 is included for them in the budget request for the applicable division. One of the continuing projects will be completed with the funds requested. Also, $21,000,000 is included in the Remaining Items budget request for Dam Safety Assurance new starts which may be approved in FY 1986 and FY 1987 as the result of studies now underway. The program will facilitate upgrading of those project features which, due to updated or changed climatic or hydrologic conditions or projections, no longer function as originally intended.

Special Continuing Authorities

The FY 1987 budget request for the six Continuing Authorities that make up the Small Projects Program funded under Construction, General is $48,000,000, a decrease of $2,965,000 from the FY 1986 allocation of $50,965,000. Funding for construction new starts accounts for about one-third of the budget request and is mostly for responding to flood control and emergency streambank problems. The request will permit initiation and continuation of planning and construction in these programs that address relatively small commercial navigation, flood damage prevention, beach erosion control, emergency streambank and shoreline protection, snagging and clearing problems, and prevention or mitigation of shore damage attributable to Federal navigation works. Project construction cost-sharing will be consistent with the cost sharing and financing concepts agreed to by the Administration and the Senate Majority leadership.

Aquatic Plant Control

The FY 1987 budget request includes $8,000,000 for Aquatic Plant Control, which is a decrease of $1,000,000 from the FY 1986 allocation of $9,000,000. Noxious aquatic plants presently infest about 1 1/2 million acres of streams and lakes and have the potential to infest about 53 million acres nationwide. The budget request for the Aquatic Plant Control program includes $2,220,000 for research and development and $458,000 for planning, which are 100 percent Federally funded; and $5,322,000 for control operations, both being cost-shared 70 percent Federal and 30 percent non-Federal. Cost sharing under proposed legislation (S.1567) would require

50 percent non-Federal participation in the operations program. The major objective is to establish effective Federal-State action to control noxious aquatic plant infestations which have significant economic or environmental impact on use of the Nation's waterways.

Employees' Compensation

The FY 1987 budget request includes $10,973,000 for costs previously paid by the Department of Labor from the Employees' Compensation Fund during the period 1 July 1984 through 30 June 1985 as the result of injury or death of employees under the jurisdiction of the Corps of Engineers civil functions. This is an increase of $332,000 over the FY 1986 allocation of $10,641,000.

ACTIVITIES UNDER THE OPERATION AND MAINTENANCE, GENERAL APPROPRIATION

Overall Request

The Operation and Maintenance, General (O&M) recommended program for FY 1987 is $1.42 billion, an increase of $100 million from the FY 1986 appropriation of $1.32 billion. Pending legislation, if enacted in FY 1986, would result in the collection of $203 million in receipts in FY 1987, which upon appropriation from a proposed Harbor Maintenance Trust Fund, would be used to reduce the general funds required for this account to $1.22 billion, or some $100 million less than appropriated during the last two years. The Corps operates and maintains completed projects to insure that the significant public benefits of navigation, hydropower, flood control, water quality and supply, and recreation are provided, consistent with authorized project purposes and current project demands. In FY 1987, the Corps will operate and maintain 287 navigation projects, 260 flood control reservoir projects, 20 local protection projects, and 72 multiple-purpose projects with power.

Program Highlights

The FY 1987 program request of $293,557,000 for operation and maintenance of multiple-purpose power projects is an increase of $12,482,000 over the FY 1986 allocation. The FY 1987 program request of $819,136,000 provides sufficient funds for the operation and maintenance of navigation features of inland, deep-draft and shallow-draft projects. However, the competition for limited funds requires the deferral of some maintenance on lower-priority projects.

Hydropower

As of 31 December 1985, the Corps was operating 70 projects producing hydropower. These projects have 344 generating units with an aggregate nameplate capacity of 19,969,327 kilowatts, which accounts for approximately one-fourth of the Nation's installed hydroelectric capacity. These projects also provide navigation, flood control, water quality and supply, and recreation benefits, consistent with authorized project purposes and current project demands. Last year, Corps hydropower energy production amounted to about 90 billion kilowatt-hours. The Corps' present hydropower capability constitutes approximately three-percent of the Nation's electrical power generating capacity.

Major Rehabilitation

Major Rehabilitation work which had been funded prior to FY 1985 is included in the Construction, General request. Major Rehabilitation projects initiated in FY 1985 and FY 1986 were included in the Operation and Maintenance, General budget request. The FY 1987 proposed program includes $37,900,000 to continue remedial work on five lock and dam projects, two harbor projects, and one multiple-purpose power project, and $15,290,000 to initiate work on three lock and dam projects, two highway bridges, and one reservoir project.

Recreation Management

Nearly 485 million recreation days were recorded at Corps projects during Calendar Year 1985, consistent with the role of Corps projects as a major source of recreation opportunities to the public. The FY 1987 program includes $129,120,000 for operation and maintenance of approximately 2,200 recreation areas, while an additional $5,838,000 is included for increased law enforcement protection in Corps-operated areas during periods of peak visitation. The FY 1987 program also includes $12,500,000 of Special Recreation Use Fees monies returned to the Corps for operation and maintenance of recreation areas, and $4,705,000 for development of Recreation Facilities at Completed Projects, which is a $1,104,000 increase over the FY 1986 allocation.

Natural Resources Management

The FY 1987 request includes $39,041,000 for Natural Resources Management at over 450 lakes and navigation pools comprising over 11 million acres, about half of which is water surface, with about 50,000 miles of shoreline. This is an increase of $4,011,000 over the FY 1986 allocation. Intensive public use requires careful management to maintain the natural resources base essential to meet all authorized project purposes. The FY 1987 request will meet mitigation requirements and basic protection of the resources base. This basic protection includes: preservation and maintenance of vegetation, soil, water, fish, wildlife, and other elements essential to the total ecological management of each project. Outlease and permit programs are integrated with specific project fish and wildlife studies and management of fish hatcheries, ladders, elevators, locks, and related facilities for passage of anadromous fish.

Regulatory Functions

The FY 1987 budget request includes $52,937,000 for the regulatory program, which is a $3,437,000 increase over the FY 1986 allocation. Regulatory activities are conducted primarily under the authorities of three Acts: Sections 9 and 10 of the River and Harbor Act of 1899; Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972; and Section 404 of the Clean Water Act. The number of applications received for individual permits has increased slightly to 14,000 in FY 1985. Applications increased in the mid-70's, reaching a high of 21,000 applications in FY 1977. Since that time, our use of regional and nationwide permits has kept this number down by exempting the public from making formal application to the Corps in many situations. About 20,000 minor activities are now authorized each year by regional permits and more than 50,000 activities are handled by nationwide permits. As a result of a directive from the President's Task Force on Regulatory Relief, we are implementing significant program reforms which are expediting processing of applications and reducing the regulatory burden on the public. We are now completing review of applications in an average of 75 days compared to 120 days at the end of FY 1982. Additional reforms and administrative changes will be implemented by regulation by the end of 1986.

National Emergency Preparedness Planning

The Corps FY 1987 National Emergency Preparedness Planning Program was developed to continue the implementation of a comprehensive five-year effort to develop and maintain a capability to respond decisively and effectively to any national emergency. The FY 1987 budget request of $13,500,000, an increase of $3,600,000 over the FY 1986 allocation, reflects expanded prepardness planning efforts particularily with respect to the Emergency Water Planning mission and implementation of the emergency relocation site program. Briefly, the funds will be used to develop and upgrade national emergency response plans; to train personnel to meet the responsibilities of a national emergency; maintain critical emergency facilities; and to test plans, personnel, training, and facilities. Other scheduled activities include: the expansion of the Emergency Water Planning mission through the involvement of additional Corps districts; the upgrading and converting of existing facilities to emergency relocation sites to increase the survivability of the Corps command and control structure; the upgrading of existing substandard emergency operations centers; and the expansion of the Corps macro-analysis program to study, on a regional basis, the Corps requirements and capabilities during a mobilization.

River Ice Management (RIM) Research Program

Across the northern United States, ice presents a major physical impediment to winter navigation on domestic waterways, particularly in those areas accustomed to year-round navigation. The challenge is to develop ice control techniques which will permit cost-effective, reliable, and safe navigation throughout the year without adverse environmental effects. The FY 1987 budget request includes $2,500,000 for the fifth year of the six-year $12,000,000 River Ice Management research program to develop structural and operational solutions to ice problems in navigable rivers systems.

Repair, Evaluation, Maintenance, & Rehabilitation (REMR) Research Program

Of the more than 600 Corps-operated-and-maintained hydraulic structures, more than half are over 20 years old, 42 percent are more than 30 years old, and 26 percent were constructed prior to 1940. Many of these structures will reach their 50-year design lives by the turn of the century. Experience has shown that repair and rehabilitation of older facilities requires various types of expertise, some of which are different from those required in connection with design and construction of new structures. Because of this, the Corps has included in its FY 1987 budget request $7,780,000 for the fourth year of the six-year $35,000,000 REMR program.

Solutions to these problems will permit the Corps to respond more efficiently and economically to REMR responsibilities.

Catalog of Future Maintenance and Repair (COFMAR)

Increased effort is continuing to better define and characterize the make-up of the Corps maintenance program. We are now in the process of cataloging all unaccomplished maintenance and repair -- identifying not only the economics and the scope of work involved but also the relative national priorities as determined by the functioning of a project and the severity of the problem. This procedure should facilitate our efforts to program and plan future maintenance requirements, including major rehabilitation, and to develop a more responsive multi-year investment level.

ACTIVITIES UNDER THE FLOOD CONTROL AND COASTAL EMERGENCIES APPROPRIATION

Under Public Law 84-99, Flood Control and Coastal Emergencies, the Corps accomplishes advance planning and preparedness activities to insure rapid response to natural as well as manmade disasters. The FY 1987 budget request is $25,000,000, which is equal to the FY 1986 appropriation. This funding would support the preparedness activities as well as meet a moderate amount of emergency operations requirements.

ACTIVITIES UNDER THE REVOLVING FUND APPROPRIATION

Estimated capital improvement program expenditures in FY 1987 are $83,000,000, including $12,000,000 of new budget authority to be used as follows: $10,000,000 to continue construction of a replacement dustpan dredge, and $2,000,000 for the Corps of Engineers Automation Plan (CEAP) acquisition program. Both of these items were previously approved by the Appropriation Committees. Expenditures for the Plant Replacement and

Improvement Program items, other than the above, will be funded from income generated through the Revolving Fund rental charges for use of Government-owned plant and equipment. From this source we have programmed $8,315,000 for four major new items, including: $940,000 for construction of an erosion protection system for the Savannah District Engineer Depot; $125,000 for design and to initiate construction of a replacement tender for the Vicksburg District; $200,000 for design of a crane barge for use by the Mobile District; $7,000,000 to initiate construction of an office building for the Walla Walla District; and $50,000 for design of additions and betterments for the Coastal Engineering Research Center headquarters building at the Waterways Experiment Station. The remaining $62,685,000 includes $46,005,000 for continuing major items previously approved for acquisition, and $16,680,000 for design, rehabilitation, construction, acquisition, and additions and betterments of miscellaneous items, such as structures, floating plant, mobile and fixed land plant, small tools, and office furniture and equipment.

ACTIVITIES UNDER THE FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES, ARKANSAS, ILLINOIS, KENTUCKY, LOUISIANA, MISSISSIPPI, MISSOURI AND TENNESSEE (FC, MR&T) APPROPRIATION

Overall Request

The FY 1987 budget request for FC, MR&T of $298,000,000 reflects a decrease of $16,760,000 from the FY 1986 appropriation of $314,760,000. Table 1 shows the breakdown by category and class and the number of studies, features, and dollar amounts for FY 1986 and 1987.

Major Highlights

The construction of the Old River Control Structure is scheduled for completion in November 1986. In addition, four survey studies will be completed during FY 1987. The proposed FY 1987 program also includes $3,500,000 to continue remedial measures at Sardis Dam in Mississippi under the Dam Safety Assurance Program. During the first quarter of FY 1986, contracts were awarded for 0.9 miles of main stem levee improvements and contracts were completed on 7.3 miles of levee improvements. Contracts for an additional 8.4 miles of levee improvements are scheduled for completion in the remaining three quarters. The channel improvement program is continuing at a normal pace.

ACTIVITIES UNDER THE GENERAL EXPENSES APPROPRIATION

The FY 1987 budget request for General Expenses is $115,000,000, an increase of $8,000,000 over the FY 1986 appropriation. This appropriation, which is essentially for the executive direction and management of the Civil Works program, includes requirements for the Office, Chief of Engineers, the 11 division offices, and four support centers. The FY 1987 request is based on estimates of requirements including increased civilian and military personnel compensation and benefits; increased communications and utilities costs and Standard Level User Charges for rent; and inflation allowances for ADP and office automation, training, supplies, equipment and equipment maintenance. Travel costs will be funded at the current level.

PERMANENT APPROPRIATIONS

The FY 1987 request for Permanent Appropriations is $9,000,000, the same amount as the FY 1986 allocation, and is the amount estimated to be available in the Governmental receipt accounts established by law as permanent appropriations to the Corps.

TABLE 1

FLOOD CONTROL, MISSISSIPPI RIVER AND TRIBUTARIES

	Fiscal Year 1986				Fiscal Year 1987				Increase or Decrease
	Number of Features or Studies			Amount	Number of Features or Studies			Amount	
Feature	New	Cont	Compl	($ 000)	New	Cont	Compl	($ 000)	($ 000)
General Investigations				7,605				7,062	-543
Surveys, Including Phase I Stage of AE&D	2	7	1	(3,576)	-	4	4	(3,044)	(-532)
Collection of Basic Data	NA	1	NA	(270)	NA	1	NA	(270)	(0)
Advance Engineering and Design	-	2	1	(1,345)	-	2	-	(1,590)	(+245)
Continuation of Planning and Engineering	1	3	-	(2,414)	-	4	-	(2,158)	(-256)
Construction	-	9	-	223,660	-	11	1	193,024	-30,636
Dam Safety Assurance	-	1	-	3,500	-	1	-	3,500	0
Maintenance	-	28	-	104,995	-	28	-	104,841	- 154
Savings and Slippage				- 25,000				- 10,427	+14,573
TOTALS				314,760				298,000	-16,760

POLICY DECISION REGARDING NEW STARTS

Chairman HATFIELD. Thank you very much, General Heiberg, and Secretary Dawson.

Senator DeConcini.

Senator DECONCINI. Thank you, Mr. Chairman.

Gentlemen, thank you for your fine presentation.

I have a number of questions, Mr. Chairman, that will take a little research, I suspect, dealing with some particular projects in my State. Those questions I will submit for the record.

I do have a general question on the cost sharing policy. I take it that your 1987 budget request is conditioned on passage of the omnibus Corps of Engineers bill with the new cost-sharing provisions. Is that correct?

Mr. DAWSON. That is certainly a major factor in the budget, Senator DeConcini. To say that the entire budget is conditioned on it might be a little more——

Senator DECONCINI. Are the projects contained in the fiscal year 1987 budget request conditioned on it?

Mr. DAWSON. The new starts certainly are.

Senator DeConcini. The new starts are conditioned on it.

Mr. DAWSON. Yes, sir.

Senator DECONCINI. Will you answer my other question. If we don't get around to passing the omnibus Corps bill, and enacting it into law, then are you saying we will not have any new starts?

Mr. DAWSON. I would say that. In addition, I think our entire program will start sliding downhill simply because we don't have the new mandate that we need to survive with the budget constraints that we see as inevitable.

Senator DECONCINI. Mr. Secretary, have you or General Heiberg had any discussions with non-Federal entities as to cost sharing on the proposed projects contained in the fiscal year 1985 supplemental appropriation bill?

Mr. DAWSON. Yes, sir, over the last 5 years, as a matter of fact, we have been working to put together agreements that would deal with this new budgetary reality, particularly in the last year have we intensified that effort. If I might, I would like to ask General Hatch to give you a real quick response on what we have done most recently to bring those together.

DISTINCTION BETWEEN FLOOD CONTROL AND NAVIGATION PROJECTS

Chairman HATFIELD. Would the Senator yield for a moment?

Senator DECONCINI. I will be glad to yield.

Chairman HATFIELD. Mr. Dawson, would you repeat your answer to Senator DeConcini's question about the contingency requirement; that is, proceeding with these projects is conditioned upon the enactment of authorizing legislation?

I read your prepared testimony in which you seem to be saying that such a contingency will not be placed on flood control projects.

However, you are making that a requirement before starting construction of the navigation projects.

Mr. DAWSON. That is an excellent point, Senator.

Senator DECONCINI. Thank you, Mr. Chairman. I didn't realize the distinction myself, because I was asking about the flood control projects. We don't have a whole lot of navigation projects in my neck of the woods. [Laughter.]

Chairman HATFIELD. That is why I let you go first. I am going to come back later on the navigation projects. [Laughter.]

Senator DECONCINI. Thank you, Mr. Chairman.

Just to clear the record, Mr. Secretary, you are saying that the cost-sharing agreement will be sought for flood control projects approved in the fiscal year 1985 supplemental, but will not be sought for navigation?

FLOOD CONTROL NEW STARTS

Mr. DAWSON. I think that we need to be very clear here, Senator. We are talking about the 41 new starts that have already been approved by this committee and by the Congress in the fiscal year 1985 supplemental. Those are not identical to the new starts that we propose in the President's budget. But any that are in the 41 new starts, there will be no reason not to proceed on the non-navigation projects that are on that list, assuming that they are ready with their planning and engineering, and many of them are.

Senator DECONCINI. Based on whatever arrangement you have made with the local communities already, or will make; is that right?

Mr. DAWSON. That is exactly right. We are not waiting for that to all evolve. We are going ahead to make those arrangements, so that we will be able to move quickly whichever eventuality occurs.

ARIZONA CANAL DIVERSION CHANNEL

Senator DECONCINI. If I could indulge you for a minute to turn your attention to the Arizona Canal Diversion Channel [AC/DC], if you are familiar at all with that project.

The city of Phoenix has appointed a citizens task force to evaluate reach 4 of the AC/DC, and recommend possible alternatives. If the city of Phoenix were to undertake a feasibility study on an alternative known as the Mole Tunnel alternative, could the Corps review that study to determine whether or not the costs and benefits were accurate?

Could you review such a study if the city of Phoenix requested it and make an evaluation of it?

Mr. DAWSON. Senator, I would ask if we could respond to that for the record. Certainly, we could comment on it. I think your question is more, how official could that be, and what legal impact.

[The information follows:]

The Corps could review the city of Phoenix's Mole Tunnel alternative; however, the South Pacific Division has not yet seen the report and does not know the details of its content. At this point, it would not be appropriate to undertake an obligation to provide an analysis until the Corps has had an opportunity to review the report.

NEED FOR COOPERATIVE EFFORT

Senator DECONCINI. Let me just say to you, the Corps has been extremely cooperative on the Phoenix flood control project. However, since the Corps has undertaken the project there has been some controversy on an alternative to reach 4 of the ACDC.

It is always difficult to come back and say, "Now that you have done what we wanted you to do, don't continue doing it". I am not going to ask that of the Corps, but we could have an environmental problem there, and perhaps there have been some overestimates of flooding. I would like to have the Corps take a careful look at a study if the city of Phoenix undertakes one.

POLICY ON DESIGN CHANGES

Let me ask one more question in this area. Can you tell me the Corps' policy regarding changes in design once construction on a project is already underway which would result in a cost saving to the Federal Government?

Have there been cases where, once a project was authorized, the design and the scope of the project changed? Cases where there is the potential for reduced costs, is the Corps able to make changes without seeking additional authorization?

Do you follow my question?

Mr. DAWSON. Yes, sir.

Senator DECONCINI. Can you do that?

Mr. DAWSON. We can. Let me ask General Heiberg to address that more specifically. I know there are limits on how much of that we can do.

General HEIBERG. Yes, sir, we certainly can and do make changes, as we continue our planning and engineering. We either find something out about flooding, for example, or new evidence of some hazard. It depends on what the challenge is, and sometimes we get smarter in the environmental area.

We certainly do make changes in the project and its design. Sometimes it is reductions, and sometimes, quite frankly, we have to go back and take a look at the costs. We are prepared to do that.

Senator DECONCINI. I know I can't pin you down on this project or anything else, but under normal circumstances, are you saying you wouldn't have to come back for reauthorization, if the changes that were made cost less than the original proposal?

General HEIBERG. If it were a reduction, we would not have to.

Senator DECONCINI. Thank you.

RILLITO RIVER PROJECT, AZ

Regarding one other project that is of great concern to me, and that is the Rillito River project, I hope you are familiar with that. I was told last year that the Rillito River interim study would be completed by September 1985. The completion date has now slipped to June 1986, I think. Can you tell us if that is a firm date, and what caused that slippage? If you do not know you can get back to me on that.

General HEIBERG. I have been told about the slippage, sir, but I do not have all the details.

Senator DECONCINI. If you would let us know, it would be helpful.

FEDERAL ROLE

In your July 1985 draft Rillito report, you expressed that there was an identifiable Federal interest in participating in the construction of a comprehensive bank stabilization and recreation system along the Rillito River. Indications are that your final report may call for a much smaller Federal participation. Since your draft finding had been shared with Pima County, and the other interested parties, those entities have proceeded in good faith with their planning and construction.

Have you really made substantial alterations and changed substantially this whole plan? We need to know that in Arizona very, very rapidly, or it is going to end up being an additional burden to the recipients out there.

Mr. DAWSON. We will certainly give you that in detail for the record, if we may, Senator.

Senator DECONCINI. Thank you.

[The information follows:]

Integrating the Federal plan with the ongoing local development has been more involved than anticipated. Portions of the project originally considered for development by the Corps were subsequently placed under construction by Pima County, and our report had to be revised to reflect that condition. It now appears that the Corps report, which is scheduled to be complete in June 1986, will still identify a Federal interest and recommend a feasible project. The recommendation will be based on the current conditions, and not on the conditions that existed when the draft report was being assembled.

Senator DECONCINI. Let me ask one further question. Based upon the belief that the county had reached an understanding with the Corps on the Rillito River project, Pima County began work in 1985 on a portion of the project assuming the costs for that work would be considered part of the non-Federal contribution and would not affect the overall cost-benefit calculations. I am now informed that you are considering denying Pima County any credit for the work initiated in 1985. Can you explain this reversal which, if implemented, will have the effect of penalizing Pima County for proceeding with essential flood repair and flood hazard mitigation work?

Mr. DAWSON. Let me provide that for the record, too.

[The information follows:]

Although we have not specifically denied Pima County credit for their work, we have no current authority under which we could commit the Federal Government to such an agreement. If enacted into law, section 208 of S. 1567, however, would provide authority for non-Federal sponsors to obtain credit for advance work on flood control projects yet to be authorized after such enactment. Section 208 would allow local interests to request the Corps to certify that their work be credited toward their required share of the project's expenses. Only local work begun after certification would be eligible for credit and would remain part of the project for the purpose of the calculation of the benefit-cost ratio. Section 208, however, would not apply to projects that are authorized prior to the local request. The benefit-cost analysis in our final report on Pima County will reflect remaining benefits and remaining costs, and it appears that the work being accomplished by the non-Federal interests will not jeopardize the feasibility of the remaining project.

ADDITIONAL QUESTIONS SUBMITTED FOR THE RECORD

Senator DECONCINI. Mr. Chairman, these other questions, I think, will be similar. They will require some time to answer. With the indulgence of the Corps, I will submit them for the record, and ask that they be answered as rapidly as they can.

Thank you, Mr. Chairman.

Chairman HATFIELD. Thank you, Senator. They will be submitted in our general written questions.

[The questions and answers follow:]

ADDITIONAL QUESTIONS SUBMITTED BY SENATOR DECONCINI

LEGISLATIVE ACTION

Senator DECONCINI. Of the new starts proposed for funding in FY 87, which projects are dependent upon the proposed cost-sharing policy being approved by the Congress?

Mr. DAWSON. Technically, none. Like the 41 FY 1985 new construction starts, we are relying on voluntary cost sharing by sponsors of the same type of projects in anticipation of Congressional approval.

Senator DECONCINI. If the proposed cost sharing policy is not authorized, what will be the impact on the Corps program for 87?

Mr. DAWSON. If there is no authorizing legislation, we will have a problem that is not related to the cost sharing or financial aspects. Twelve of the 19 proposed new starts do require authorization before construction can be initiated. The twelve are identified in Table A attached to my complete statement; all are included in the bills under consideration by both houses.

FISCAL YEAR 1985 CONSTRUCTION STARTS

Senator DECONCINI. The FY 85 Supplemental Appropriations bill appropriated funds for new Corps projects contingent on the passage of cost-sharing legislation. If cost sharing is not enacted, does the Corps plan to proceed on entering into cost-sharing agreements with non-Federal entities on a case-by-case basis for those projects contained in the FY 85 Bill?

Mr. DAWSON. Yes we do. We intend to negotiate a mutually satisfactory cost sharing agreement with a local sponsor wherever one is required with the exception of Parker Lake, OK, which we consider to be essentially a single purpose water supply project.

Senator DECONCINI. Have any discussions taken place to date between the Corps and non-Federal entities mentioned earlier on cost-sharing agreements?

Mr. DAWSON. We have entered into negotiations with local sponsors on 33 of the 36 projects requiring agreements. Further, we have discussed the remaining three projects with non-Federal entities. As we develop these three projects, the project benefits will become more clearly articulated and the resultant non-Federal sponsor can more readily be defined.

Senator DECONCINI. Many small communities and localities have legitimate water needs or flood control needs but lack a sufficient tax base to meet cost sharing requirements. What provisions have been made for waiver of cost sharing requirements when warranted?

Mr. DAWSON. The provisions for small communities and localities that lack sufficient tax base to successfully develop a funding plan can be summarized in Sections 701 (f), (g), and (h) of S. 1567, the Water Resources Development Act. Basically, the Secretary may allow the community to defer their initial payment for up to one year; second, may allow the local sponsor to amortize all or a portion of their share over a 30 year period (however, interest would be charged for this option); in certain circumstances, allow a credit for work accomplished by the local sponsor; and, finally, cost sharing will be subject to the local sponsor's ability to pay. To date negotiations have centered around the financing methods a local sponsor will use rather than the local sponsor's ability to pay. Our objective is to achieve a measure of consistency and bring stability to the new starts process for water resources development projects. For this reason, we are reluctant to establish waiver procedures.

ADDITIONAL CAPABILITY FOR FISCAL YEAR 1987

Senator DECONCINI. I note the Administration has requested $3.078 billion for the Corps Civil Works Program in Fiscal Year 1987. How much additional capability does the Corps have in Fiscal Year 1987?

General HEIBERG. We develop capability amounts for individual studies and projects separately; that is, without consideration of the rest of the program. Thus, aggregate amounts are misleading. I have, however, provided to the Chairman, in response to his request, tables showing individual capabilities for FY 1987 and an explanation as to their meaning. The tables include national totals for convenience purposes only.

CARRYOVER BALANCES

Senator DECONCINI. Do you anticipate any carryover balances from fiscal year 1986? If so, could you estimate how much will be carried over?

General HEIBERG. We expect to carry over some unobligated balances into the next fiscal year. Because of reductions required by the Balanced Budget and Emergency Deficit Control Act of 1985, we estimate a small carryover of approximately $150 million, or only about five percent of our fiscal year 1986 appropriation.

CLIFTON, AZ

Senator DECONCINI. As you know, the Corps has been studying flood control alternatives for the Town of Clifton, Arizona. Could you please provide the Committee with an updated report on the status of this study and what steps are necessary to move from the study phase?

Mr. DAWSON. As part of the overall study for Gila River and Tributaries, we had originally intended to complete the report on Clifton in January 1986; however, the need to conduct additional hydraulic studies has extended completion to March 1986.

Senator DECONCINI. Does the Corps have sufficient funds in its FY 86 budget to complete the Clifton study? How about the FY 87 budget? If there are no sufficient funds requested in FY 87, please explain to the Committee why these funds were not requested.

Mr. DAWSON. Yes, the Corps has sufficient funds in FY 1986 to complete the study. No funds are required in FY 1987.

Senator DECONCINI. It is my understanding that the Corps is studying a combination of structural measures and relocation for the Town of Clifton. Could these efforts be separated? For example, could the structural portion calling for a dike to provide flood protection for the southern region of the town be separated from the relocation effort?

Mr. DAWSON. At this time we are unable to make a judgment on whether the elements of this plan can be treated separately. We will have to complete further studies before we will be in a position to make that analysis.

Senator DECONCINI. If so, does the Corps have authority under the Small Projects authorization to build a dike? If not, please explain.

Mr. DAWSON. The Corps has not examined a dike for Clifton under the small projects program. The flooding problems at Clifton are being examined under our ongoing Gila River and Tributaries feasibility study. If we are able to develop a viable solution to Clifton's flooding problem as a result of the study, we would recommend authorization of a project.

Senator DECONCINI. What are the estimated costs for construction of a dike?

Mr. DAWSON. We do not have an estimated cost at this time because we have not completed our hydraulic evaluation nor have we fully developed a plan for the dike.

Senator DECONCINI. If the Town of Clifton supported an effort to separate the relocation from the structural elements, would the Corps be willing to move forward now on the dike prior to study completion?

Mr. DAWSON. Once we have defined a viable solution for the flooding problems at Clifton, and assuming the solution includes both structural and non-structural elements, there may be no problem moving forward independently, after authorization by Congress, if those elements will actually function independently.

Senator DECONCINI. How much flood protection could be provided to the Town of Clifton with a flood control dike?

Mr. DAWSON. We are considering protection in the range of 145,000 CFS and an event of about 125 year frequency.

Senator DECONCINI. Please bring the Committee up to date on the status of families residing in the area of the proposed relocation. Have the majority of the people already moved?

Mr. DAWSON. At this time there are 109 families residing in north Clifton, the area of the proposed relocation. To date, we are unaware of any families moving from this area.

Senator DECONCINI. If a decision was made to move forward on dike construction, would it still be necessary to complete the Clifton study?

Mr. DAWSON. The Corps cannot move forward on dike construction until we have completed an appropriate study, so that a project can be defined, and subsequently authorized.

Senator DECONCINI. If the Corps can construct the dike under existing authority, why has no action been taken to date? Please explain.

Mr. DAWSON. The Corps has no authority at this time to construct a dike.

Senator DECONCINI. Does the Corps have sufficient funding under Small Projects to undertake the dike work in FY 86–FY 87?

Mr. DAWSON. The Corps is currently pursuing the project under the ongoing Gila River and Tributaries study. Consequently, no funds are included in the small projects program for Clifton.

ARIZONA CANAL DIVERSION CHANNEL

Senator DECONCINI. I have some detailed questions on the Mole Tunnel alternative that I would like to have answered.

Mr. DAWSON. I will have the district answer those questions based on their understanding of the proposal and supply those answers for the record.

[The questions and answers follow:]

Question. Would the "Mole Tunnel alternative" provide comparable flood control benefits as the Reach 4 of the ACDC? Please explain. Would any area which would be protected from floods by Reach 4 lose protection under the "Mole Alternative"?

Answer. No, sir. The "mole alternative" would not control the tributary drainage areas between 32nd Street and Dreamy Draw, a distance of approximately 3½ miles.

Question. Would there be some liability incurred either by the Federal government or the non-Federal entities for redirecting the flood waters down to the Salt River?

Answer. The Section 221 Agreement provides that the local sponsor would bear any liability. Without an analysis of the specific alternative, and its impacts on the area, potential liabilities cannot be assessed at this time.

Question. If an alternative to Reach 4 were requested by the City of Phoenix, and if it was not necessary to seek additional Congressional authorization, could you estimate what kind of delay this would mean for the completion of the Project?

Answer. The Corps cannot estimate the potential delay until they have had a chance to evaluate the specific alternative which was proposed.

Question. When will major construction occur on Reaches 3 and 4 of the ACDC? How much money has been spent to date at the Federal level in preparation for these reaches?

Answer. Construction is programmed for intiation in June 1988 on Reach 3 and in December 1989 on Reach 4. Total expenditures to date for overall project design is about $14.3 million. The Corps does not separately account for design costs associated with parts of the overall plan under design. No construction has yet been performed on Reaches 3 and 4.

Question. If changes were recommended by the City of Phoenix for Reach 4 along the lines of a Mole Tunnel, would the Federal and non-Federal percentages of participation stay the same?

Answer. They would almost certainly change, depending on the specific proposal involved.

NEW GANADO DAM—NAVAJO RESERVATION

Senator DECONCINI. Could you tell me what progress, if any, has been made on the Initial Appraisal for the New Ganado Dam on the Navajo Reservation?

Mr. DAWSON. The Corps anticipates completion of its Initial Appraisal in March 1986. Preliminary findings indicate that a flood control project cannot be justified.

Senator DECONCINI. Are specific funds set aside for this appraisal in FY 87? If so, what are they?

Mr. DAWSON. No, sir. The initial appraisal will be completed with funds available in FY 1986.

INDIAN BEND WASH—GROUND WATER RECHARGE

Senator DECONCINI. Our FY 86 allocation to you provided for a ground water recharge demonstration on the Indian Bend Wash project to be conducted in concert with the Bureau of Reclamation. Have you been working with the Bureau on this effort?

Mr. DAWSON The authority for a ground water recharge demonstration project was given to the Bureau, directing them to cooperate with the Corps. We have had preliminary discussion with them to determine how they intend to implement the Congressional direction. It is my understanding that several potential sites throughout Arizona are in competition with each other under the Bureau's authority and that communication is ongoing between the Bureau and the state of Arizona in an effort to determine the appropriate site.

Senator DECONCINI. What is the status of the ground water recharge project for FY 87?

Mr. DAWSON. To my knowledge, the Bureau and the state have not reached a decision on the site for a ground water recharge demonstration project.

HOLBROOK, AZ

Senator DECONCINI. The City of Holbrook, Arizona has requested that you determine whether or not a deficiency exists on the levee project on the Little Colorado River. What is the status of that effort?

Mr. DAWSON. A report on the levee project at Holbrook is in the Chief of Engineers office and is currently under review. I expect to advise you on the progress of the report review in April 1986.

Senator DECONCINI. Once a deficiency is determined, what is involved in determining the causes?

Mr. DAWSON. I would rather not speculate on whether or not a deficiency exists. That determination, together with likely causes, must be based upon careful study and evaluation.

Senator DECONCINI. If the cause is determined to be a "project deficiency" it is my understanding that work on the levee could proceed without the necessity of cost sharing being assigned to the City of Holbrook, is that correct?

Mr. DAWSON. The cost sharing of project deficiencies are considered on a case by case basis. At this time, the Corps Headquarters has not progressed far enough in its review of the proposed deficiency to make a final decision on Holbrook.

SANTA CRUZ INTERIM STUDY (GILA RIVER)

Senator DECONCINI. It is my understanding that you plan to use 1986 carryover funds to complete the Santa Cruz interim study and that no funds are being requested in FY 87 for Santa Cruz, is that correct?

Mr. DAWSON. Yes, sir, the FY 86 funds are adequate for the Corps to complete its current studies.

Senator DECONCINI. Is it true that only a negative determination can be made on Santa Cruz with available funds?

Mr. DAWSON. Current funds are adequate to reevaluate the draft feasibility report in light of the extensive damages which occurred during the October 1983 flood, but the funds are insufficient to prepare a full feasibility report should the review indicate a potential Federal interest.

Senator DECONCINI. If a negative determination is made on Santa Cruz, when will that be known?

Mr. DAWSON. By March 1987 the Corps should be able to determine the results of this interim study.

Senator DECONCINI. If Santa Cruz is determined to be a "viable" project, will additional funds be required in FY 87 to complete the study? If so, what amount of additional funding will be required?

Mr. DAWSON. If the Corps review of the Santa Cruz draft report indicates the prior findings are no longer valid, then additional funds would be required to complete the study. At this time, it would be premature to define what these study costs might be.

Senator DECONCINI. Can a positive determination be made on Santa Cruz and still meet the March 1987 completion date that you project?

Mr. DAWSON. No, sir, if the report is positive the Corps would need additional time and funds to complete a final report. And, of course, cost sharing of the feasibility report would have to be considered.

GILA RIVER—NOGALES WASH

Senator DECONCINI. Could you please provide for the record an update on corps studies relative to Nogales Wash? When do you anticipate project completion?

Mr. DAWSON. The Gila River, Nogales Wash study is currently in the feasibility phase. Structural and non-structural solutions are being investigated to solve flooding and bank erosion problems in the Nogales vicinity. The preliminary recommended plan will be available for initial review by the Division early in FY 1987.

OTHER ARIZONA PROJECTS—FUNDING REQUESTS

Senator DECONCINI. The Corps has requested $927,000 for operation and maintenance on Alamo Lake. What is your additional capability on this project?

Mr. DAWSON. The Corps has no additional capability on Alamo Lake.

Senator DECONCINI. The Corps has requested $276,000 for surveys under the Gila River and Tributaries authorization. Does the Corps have additional capability for these surveys? Please explain. Could you provide the Committee with an updated report on the status of the Conner Dam survey?

Mr. DAWSON. The Corps has an additional capability of $230,000 which would allow completion of the Salt-Gila interim and advance completion of the Final Report 12 months. We understand that the report that includes Conner Dam has not been released by the Bureau of Reclamation.

Senator DECONCINI. Does the Corps have additional capability on the Phoenix Flood Control Stage 2 and Old Crosscut Canal projects? Please explain.

Mr. DAWSON. No, sir. The funds in the budget are adequate for optimum progress on both projects.

RAFFERTY AND ALAMEDA DAMS, CANADA

Chairman HATFIELD. The Senator from North Dakota.

Senator BURDICK. I would like to report to you that last week I was doing my best to improve relations with our sister country, Canada. We had a very good meeting up there and I am pleased to report that Premier Devine announced on February 12 that Saskatchewan would proceed with the Rafferty and Alameda reservoir structures. I would like to thank you for your support of these projects.

On February 6, a meeting was held in my office with the State Department, the Canadian Embassy, and Corps representatives from St. Paul, in Washington. We discussed protocol procedures in negotiating an international technical operating agreement.

Mr. Carrol Brown, Chief Officer for the Canadian Desk, gave the St. Paul office verbal approval to develop technical recommendations for the State Department. Colonel Brown of the Corps said that he would arrange for the Corps to send the necessary letter over to the State Department requesting the Federal Government to formally open negotiations with Canada.

Has this letter been sent, to the best of your knowledge, and what has happened?

Mr. DAWSON. Before I defer to General Hatch, let me just say, Senator Burdick, that I am convinced, as are all of the other parties, that without your leadership on that, we wouldn't have gotten to the point that we have.

General HATCH. Senator, I want to echo Secretary Dawson's comments. We are very anxious to do that alternative in the United States. That draft memorandum is on its way to my office and will be forwarded to Mr. Dawson, for action after our review so that we can request the State Department to begin negotiations.

Senator BURDICK. Could you send me a copy?

General HATCH. We will do that.

U.S. SHARE OF PROJECTS' COSTS

Senator BURDICK. Thank you.

The State Department will formally coordinate the executive branch's interests with the Canadians. Besides checking with the Corps on technical aspects, it will deal with OMB on the schedule of payments. Canada plans to construct both dams over the next 4 years. The Corps has determined that the United States would pay $41 million. We are probably looking at a payment request of $10 million per year. Do you foresee any problems in the administration sending up a supplemental for fiscal year 1987 for the first payment?

Mr. DAWSON. Senator, while I don't know of any problems now, I would prefer, if I could, to supply that for the record and make sure that we have touched all the bases on that.

Senator BURDICK. That would be fine.

[The information follows:]

In fiscal year 1987, the administration's budget includes $600,000 to continue the feasibility study of benefits from the two Canadian reservoirs, Rafferty and Alameda. Also budgeted in fiscal year 1987 is $2 million for the Lake Darling project which includes completing construction of the Velva unit and initiation of construction of project features between Burlington to Minot, that are common to both United States and/or Canadian project features.

It is premature for me to comment on whether the administration would submit a supplemental request or an amendment to the fiscal year 1987 budget. No such action could be considered, however, unless the State Department has concluded negotiations with the proper Canadian officials.

FEASIBILITY STUDY

Senator BURDICK. I reviewed the separate budget justification for Lake Darling, and the Souris River basin study. As you are aware, the pending Senate omnibus authorization bill (S. 1567) modifies Lake Darling by including Rafferty-Alameda as project features. The Corps budget calls for a $3 million feasibility study, with the local sponsor paying $1.5 million for a continuing study on Rafferty-Alameda.

It is my impression that the Corps recommended two separate budget items because the modified project has not been formally authorized. Is a full-blown feasibility study necessary under the circumstances?

Mr. DAWSON. General Hatch.

General HATCH. Senator, I believe it would be prudent at this time in case an omnibus bill is not enacted; the feasibility study can serve as the basis for authorization.

Senator BURDICK. How much time are we talking about?

General HATCH. I would rather not answer that now, but if I may, provide that for the record.

Senator BURDICK. We have a friend up in Canada who is the Premier, and he is pretty anxious.

General HATCH. I understand that.

Senator BURDICK. The faster you can do it, the more it will be appreciated.

Does the Corps intend to request that the local sponsor cover part of the cost, or do you know at that point?

General HATCH. The feasibility study, sir?

Senator BURDICK. Yes.

General HATCH. The policy now is that the local sponsor would provide a percentage of the cost of the feasibility study.

Senator BURDICK. If you can get some speedy action on that project, we would all like it. It would certainly improve our relations on the North American continent.

Mr. DAWSON. We will provide information on the feasibility study for the record.

[The information follows:]

The reconnaissance phase of the feasibility study for the Souris River basin is presently underway and funding in fiscal year 1987 includes $600,000 to continue the study. However, if a modified project, to include the Rafferty-Alameda dams in Canada, as is proposed in S. 1567, is authorized and an international agreement is forthcoming, there does not appear to be a need to continue the Souris River basin study. If the modified project, as you refer to it, is not authorized, then the feasibility study would continue and be processed to serve as the basis for authorization and obtaining the international agreement. Certainly passage of an omnibus bill which authorizes the modified project would facilitate the State Department's effort to negotiate an agreement covering the Rafferty and Alameda Reservoirs in Canada.

WILLISTON, ND, MOSQUITO PROBLEM

Senator BURDICK. I want to ask some questions about some mosquitoes. We have a problem at Williston, ND, and we have discussed the current Corps policy of only providing control assistance to communities under a health emergency declared by an appropriate State agency.

However, the Corps has participated in mosquito surveillance activities with the city of Williston since 1976 because of its concern in controlling mosquitoes that transmit an encephalitis virus.

Of course, you are aware that the Garrison Reservoir project ends around Williston where the river is very wide and shallow. It is apparently a natural breeding ground for mosquitoes, so a long-range solution is necessary. Williston residents are constantly worried about encephalitis outbreak.

They have identified 1,400 Corps acres as breeding grounds that require control. Developing measures on the State level would cost from $36,000 to $70,000.

SUPPORT OF LOCAL INITIATIVES

General HATCH. Senator, we have directed our Missouri River Division to pursue that particular problem at that lake. As you have indicated, we have no authority to engage in actual antimosquito operations just to eliminate nusiance mosquitoes but we are willing to help find a solution to that problem. The local district is working with local authorities to develop a solution to the problem. We will be glad to continue working with them in the future as needed.

General HEIBERG. I suppose that we are offending somebody's turf, but I do want to go on record as opposing this.

SUPPORT FOR CANADIAN COMMITMENT

Senator BURDICK. Getting back to the matter I discussed first about the feasibility study, in the 1986 budget, this committee added $150,000 to cover local sponsor's share for a continuation of their reconnaissance study. It is my understanding that the Chief's office tends to ignore the committee's decision that the cost-share policy does not apply. Historically, Lake Darling has been exempt from the administration's water policy, and we know that.

I would encourage the Corps to conclude this matter as quickly as possible. It is very important to Canada.

General HATCH. Sir, we recognize what we believe are the commitments that Premier Devine has made within Canada, and we want to do our best to be supportive of that.

Senator BURDICK. Thank you very much.

Chairman HATFIELD. Thank you very much.

PREPARED STATEMENT OF SENATOR MATTINGLY

Senator Mattingly had to leave, but he wants to have a statement included in the record.

So, if there is no objection, his statement will be made part of the record at this point.

[The statement follows:]

STATEMENT OF SENATOR MATTINGLY

Mr. Chairman, I would just like to briefly welcome Secretary Dawson, and further congratulate him on his recent confirmation to his position. I know that it must have seemed that the day would never arrive, and I think he should be commended for his patience with the process. I believe that he performed the duties of the office in a most effective and efficient manner during his long wait. I also know that Mr. Dawson will work in every way possible to assist the subcommittee and all our colleagues in the Senate as we wrestle with some of the difficult budgeting and spending decisions we will face in the weeks and months ahead.

I would take one further moment, Mr. Chairman, to say for the record that I hope other Senators have had the same kind of ongoing, pleasant relationship with the Corps of Engineers operation at the district level that I have experienced in dealing with the Savannah District. Under the leadership of the Assistant Secretary and the Chief, I can honestly say that I do not recall any occasion on which I have felt that the district engineer in Savannah and his professional staff did not promptly respond to our requests and concerns.

So, Mr. Chairman, I am optimistic that as we undertake improvements in our Nation's water transport system, we will be able to move forward in a constructive and efficient manner in cooperation with Secretary Dawson and local sponsors of projects.

RACINE HARBOR, WI

Chairman HATFIELD. Senator Kasten.

Senator KASTEN. Mr. Chairman, thank you very much.

Mr. Dawson, as you know, the city of Racine, WI, is actively pursuing the development of a harbor-marina project. A critical portion of this development is the dredging of the harbor.

The President has signed into law the 1986 Energy and Water appropriations bill, which includes specific language that the Corps provide $3 million to dredge the Racine Harbor area and entrance channel. The House also has passed authorizing legislation for this project.

I would like to get from you some kind of a sense of when you would plan to proceed, assuming the Senate approval of the omnibus water bill and the inclusion of authorizing language for the project. When would you plan for this project to proceed?

I am trying to figure out a way to give the city of Racine some specific dates upon which they can expect the dredging to begin. They are anxious to know how this would coordinate with some other efforts that we are making in Racine, WI.

BUDGETARY PRIORITIES

Mr. DAWSON. I understand, sir. The problem we have had in proceeding already with Racine has been the fact that it is a recreation harbor. With the severe budgetary constraints that we have been dealing with, recreation harbors and other recreation projects are a very low priority.

We are very much aware of the report language that you alluded to and 95 percent-plus of the time, we faithfully follow that report language. However, when we have a situation where there is a clearly stated administration policy that is counter to that language, we request that the Congress state clearly in the law the desire to override that policy.

That policy of not being able to prioritize and request funds for recreation harbors is in effect, and presumably will continue in effect even if the omnibus bill is passed. Therefore, I am not sure that there will be any improved situation from our standpoint, even if the omnibus bill passes, although I very well understand that the Congress may have the final say on that.

Senator KASTEN. Based on what you have just said, it looks like the Congress is going to have to have the final say. I believe that the House version of the bill has it included in the bill. I believe that the Senate bill will have it included in the report language, and that should give you enough to go forward, shouldn't it?

Mr. DAWSON. Well, sir, again, we would hope that the Congress would agree with us, and we recognize that they may well not in the final analysis. But we would hope that the Congress would agree with us that recreation projects, at a time of a $200 billion annual deficits, do not have the same priority when we don't have enough money to do the flood control and navigation projects that are in the same bills.

Senator KASTEN. The House has it in its bill, and we will have it in our bill also. I don't want to argue about whether it is recreation or commercial, or whatever. That is a whole other set of arguments.

KENOSHA HARBOR, WI

I have some additional questions concerning the confined dredge disposal in Kenosha, WI, which I will submit for the record for a written response by the Corps of Engineers. We have worked with your people on that back and forth, and it is a somewhat related kind of a problem. It includes a disposal facility and a contract upon which the Federal Government, at least in the opinion of the people of my State, have renegged on their responsibilities.

That is a complicated set of questions, which I would like to submit for the record. I believe both the House and the Senate will take a position in favor of the Racine Harbor channel, and I am hopeful that we can work with you.

Mr. Chairman, I will submit those questions for the record, and I thank you very much.

Chairman HATFIELD. The Senator's questions will be placed in the record.

[The questions and answers follow:]

ADDITIONAL QUESTIONS SUBMITTED BY SENATOR KASTEN

KENOSHA HARBOR, WISCONSIN

Senator KASTEN. In the years prior to design and construction of the Kenosha Confined Dredge Facility (CDF), commercial use of the Racine Harbor declined drastically. Why did the Corps design capacity for the Kenosha CDF then include 350,000 cubic yards of capacity for Racine Harbor dredging when commercial use of the Racine Harbor was ceasing and its use was becoming recreational?

General HEIBERG. Commercial use of many harbor projects has periods of increased or decreased use; therefore, a decrease in use at Racine Harbor was not that uncommon. In addition, local interests were in the pursuit of commercial utilization of the harbor at that time. A prediction that Racine would cease all commercial use was not foreseeable at the time the CDF was constructed in 1974. Therefore, a design capacity for a full 10 years of maintenance was assumed, based on the previous 10 years of actual maintenance. Most harbors on Lake Michigan have shown a fast, steady increase in recreational use, regardless of the level of commercial use.

Senator KASTEN. Commercial use of the Racine Harbor stopped totally in the late 1970's. Why didn't the Corps change its operating policies and fill specifications for the Kenosha CDF when it became clear that Racine would not produce any dredging for this CDF?

General HEIBERG. Part of the capacity in the Kenosha CDF was specifically built for dredging from Racine Harbor. While Racine Harbor is currently not used by commerce, it is authorized as a commercial harbor and it is possible for commercial traffic to again resume causing an increase in dredging requirements. Therefore, it would not be prudent for the Corps to abandon use of the CDF in that this valuable assest is available for costly dredged material disposal.

Senator KASTEN. There are about 25 CDF's located on the Great Lakes. How many of them have been used or are not expected to be in use for more than 10 years? How many other Great Lakes CDF missed the 10 year lifetime by an estimated 30 to 35 years?

General HEIBERG. A CDF capacity is based on the dredging experience of several years prior to its design and construction. As harbor use can change drastically, so can shoaling patterns and thus maintenance dredging requirements. In addition to changes in project use and shoaling patterns, the quantity of dredging over several years can also be effected by work priorities and funding priorities. Some CDF's will not last ten years, while others will last much longer. Eighteen of the 25 completed CDFs are expected to be in use for more than 10 years. There is only one CDF with an estimated lifetime of 30 to 35 years.

Senator KASTEN. Why can't the Corps permit the City of Kenosha to fill up the estimated 350,000 to 400,000 cubic yards of excess capacity at the Kenosha CDF with land-side generated fill, assuming the necessary State approvals and permits are obtained by the City?

General HEIBERG. The facility was constructed under Public Law 91-611 to exclusively receive dredgings from the harbor and other navigation related activities, including permit dredging. The Corps cannot permit the use of the CDF for purposes other than for which it was authorized.

Senator KASTEN. The Corps has waived its fee for Kenosha City use of the CDF's fill capacity. Why can't the Corps waive all of its fee or charge requirements for such non-Corps sourced fill materials? Can the Corps expand that waiver to cover Kenosha citizens and businesses?

General HEIBERG. Detroit District has not waived payment of fees for use of the CDF by Kenosha or any other public or private entity. Section 123(g) of Public Law 91-611 requires collection of such fees.

Senator KASTEN. If the Corps needs part of the City's land for the Kenosha CDF at the end of its 10-year lifetime, can the Corps negotiate an extension of the current arrangement whereby the City is paid a fair rental for its land and compensated for its losses to date and through the extension period?

General HEIBERG. Section 123 of P.L. 91-611 authorizes the construction of CDF's designed for a 10-year capacity. Neither the plain language of the statue nor legislative history suggests that a CDF should only be used for a 10 year period if that facility can be managed to produce more capacity. In fact, Sections 123(c) and 123(f) state that the state's responsibility to maintain a facility and its right to transfer a facility is contingent on the Corps completing its use of the facility, not on the expiration of a 10 year period. It appears, therefore, that although Congress only authorized the Corps to design CDF's with an initial 10-year capacity, nothing in the statute would prevent the Corps from using thoses facilities for more than 10 years if management practices make that result possible.

This conclusion is reinforced by Congress' subsequent promulgation of Section 148 of P.L. 94-587 in 1976. In that Section, Congress directs the

Corps to use appropriate management practices "to extend the capacity and useful life of dredged material disposal areas such that the need for new dredged material disposal areas is kept to a minimum." 33 U.S.C. 419s (1982), Section 148 is not limited in application to any specific disposal areas, but instead appears to be generally applicable to CDF's throughout the Nation. Therefore, there is no need to extend the agreement or make any payment.

Senator KASTEN. Is Kenosha's service as dump site for other Great Lakes Ports a cost saving or benefit to the rest of the Nation under Section 107?

General HEIBERG. First, I would say the CDF facility at Kenosha is not a dump site for other ports. It is a facility that serves the navigation needs of Racine and Kenosha, Wisconsin, under agreement between the respective cities and the Corps of Engineers. The presence of this CDF has no impact upon the determination of National Economic Development benefits in the formulation of project feasibility. To date, there is no recommended project under Section 107 authority for Kenosha, Wisconsin.

Senator KASTEN. In 1974 the Corps estimated the Kenosha CDF's life at 10 years. In 1984, its life was estimated 40 to 45 years. Why is the 1984 estimate any more accurate than the first estimate?

General HEIBERG. Estimates of CDF capacities are based upon past dredging requirements. The 1974 estimate was based upon experience from pre 1974 dredging at both Racine and Kenosha. In 1984, based upon more recent experience, we estimated that Kenosha CDF would be able to satisfy disposal requirements for 30-35 years, at the present fill rate.

Senator KASTEN. How will the Corps cooperate and assist the City of Kenosha to solve the problems with the Corps Kenosha CDF?

General HEIBERG. First, I must report that the Corps does not view the Kenosha CDF from the same perspective as the City. From the Corps viewpoint, the unfilled CDF represents a valuable capability to carry out its responsibilities efficiently and at the least cost in Federal funds. The Detroit District is investigating the feasibility of altering its filling procedures to permit accelerated turnover of some portion of the CDF in the future. Given current authorities and constraints, such a modification must be at no additional cost to the Federal Budget and, in view of the relatively slow rate of filling, does not promise relief in the near future.

It is important to remember that if use of the existing Kenosha CDF is stopped, according to existing project authorization, the city would have to provide for another dredged material disposal site. Section 123, P.L. 91-611 only provided for disposal sites for an intensive period. When the Section 123 site is used up, the existing items of local cooperation would govern again making the provision of a new CDF a total local responsibility.

Senator KASTEN. Can the Corps permit the City to invest the proceeds of its breach of contract claim against the Corps on the Kenosha CDF in payment of the Local Community's portion of a Section 107 Small Boat Harbor project in the Community?

General HEIBERG. Any breach of contract claim pursued by Kenosha must ultimately be addressed within the Federal court system. In such affairs, the Federal Government is represented by the U.S. Attorney, not the U.S. Army Corps of Engineers. Any financial compensation awarded by the court derives from the Federal Treasury and is essentially unfenced. We presume the City may utilize such funds for whatever purposes they choose.

MISSISSIPPI RIVER AND TRIBUTARIES PROJECT

Chairman HATFIELD. The Senator from Mississippi, Mr. Cochran.

Senator COCHRAN. Thank you, Mr. Chairman.

Let me thank the Secretary for his statement. I have reviewed it, and appreciate the observation that you make that the Army's Civil Works Program is really at a crossroads. Your conclusion is that we can either go forward now in a timely way, or slide backward. I am really in favor of going forward, and I want you to know that I think this committee sympathizes with that attitude. We will be working to try to develop a program of activity, and funding for that program of activity, that will illustrate that sentiment in a very clear way.

In my region of the country, we have a project, the Mississippi River and tributaries project, which was authorized back in 1928 because of the disastrous floods, that occurred during the year before, that illustrated to the entire country how devastating to a multi-State region the Mississippi River could be if it is not controlled in the way that we have learned to do in order and to protect life, land, and property.

I hope that we won't try to break up the MR&T project, which is a single project, into a multitude of new projects, and apply new standards and new requirements that will make it impossible to complete the MR&T project as originally authorized.

I know that this is a matter of some controversy, at least with some people, but I just want you to know that my sentiments are that we ought to try to move forward to completion of that very vital and important project that affects not just my State, but many other States as well.

It just so happens that a lot of the work has been completed, except in the lower Mississippi River Valley, where we still have lands that are unprotected, and people who do not have the same quality of protection that they would have if this project had already been completed.

I hope that we can move forward, and I know that it has your attention, and that you have been trying to work out the problems as they do develop.

PEARL RIVER BASIN

We are also interested in some other parts of the budget that has been presented to the committee today. The Pearl River basin is a continuing problem in my State. I hope that we can develop a comprehensive flood control solution that will recognize the interests of those above the Jackson area. At the same time, the citizens of the city of Jackson are continually threatened by very serious flooding, which needs to be taken care of at the earliest possible date. Below Jackson, smaller towns that don't quite get the publicity that a flood in a bigger city gets, also have continuing problems that need early attention by the Corps of Engineers, and by the Congress.

YAZOO PUMP PLANT

These are matters that come to my attention. The Yazoo backwater pumping plant is something that we need to see completed. We have made funds available by this committee for that project, but we can't seem to get anything done. The contracts aren't let. There is just stalling, foot chogging going on, in my judgment, on that project. I think that we need to put some emphasis there, it is an important feature of the overall effort. It is a part of the Mississippi River and tributaries project, and I hope that we can see some results for the efforts that are being made by the Congress to get that moved along toward completion.

I don't guess that there is a question in there, Mr. Chairman. I am sorry, I couldn't think of one.

Thank you very much.

Chairman HATFIELD. That was a very eloquent statement.

Are there any further questions for the panel today?

1985 NEW STARTS—CONSTRUCTION CONTINGENCY

Chairman HATFIELD. Mr. Dawson, I may have one or two questions and we will have others for the record.

In your statement, you indicated, if I understand you correctly, including your response to the Senator from Arizona's question, that the initiation of construction on those navigation projects contained in the fiscal year 1985 supplemental bill is contingent upon enactment of authorizing legislation which is consistent with the administration and Senate leadership agreement of last June. Do I understand that correctly?

Mr. DAWSON. Yes, sir.

Chairman HATFIELD. Mr. Secretary, can you point to the specific language in the Senate leadership agreement, or the debate, or the conference report on the supplemental that specifically states that the construction of the 41 projects is dependent upon enactment of authorizing legislation after May 15, 1986?

Mr. DAWSON. Mr. Chairman, I would like to give you more than what I am about to say for the record on that. It is our judgment that the mandate that the Congress gave us required that the cost sharing for construction be acceptable to the Secretary of the Army in the event, which we hope will not occur, of there not being an omnibus bill. We also believe that that mandate requires us to proceed only if we have a financially responsible structure in place, and part of that, in our judgment, is to get the increased income for the Inland Waterways Trust Fund and the new port ad valorem fee. Of course, we are optimistic that we will get both fees, and that we will not be in a position to have to take that approach. As a sign of our good faith there, we have been proceeding with the local cost-sharing arrangements with the port authorities, even in the absence of a bill, because we think we can get a bill to embody those provisions.

Chairman HATFIELD. There is no language that requires authorization prior to the beginning of construction of the navigation projects, is there?

Mr. DAWSON. I wouldn't say, Mr. Chairman, that there is any language that specifically requires that. Again, I believe the mandate to come up with cost sharing acceptable to the Secretary of the Army would be that.

Chairman HATFIELD. So Public Law 99-88 authorizes the Secretary of the Army to proceed with construction under terms and conditions acceptable to him; correct?

Mr. DAWSON. Yes, sir.

Chairman HATFIELD. Then why is it necessary to make construction contingent upon the enactment of authorizing legislation?

OUTYEAR FUNDING COMMITMENTS

Mr. DAWSON. Mr. Chairman, it is our judgment that unless we have that money that will be produced by the inland waterways fuel tax increase, and by the ad valorem fees that would be levied at the ports, we could not responsibly proceed to construct those navigation projects and, at the same time, have cost sharing acceptable to the Secretary of the Army.

Chairman HATFIELD. Why?

Mr. DAWSON. Well, sir, again, we would be incurring a great deal of exposure for the program in the way of commitments for future outlays, without the offsetting income coming in, receipts which had been contemplated throughout the discussions on proceeding.

Again, let me say, it is our earnest hope, and we are working very, very diligently to make sure that we don't reach the point of having to hold up construction.

STATUS OF INLAND WATERWAY TRUST FUND

Chairman HATFIELD. Mr. Secretary, let's just take a closer look at the inland projects—specifically the Inland Waterway Trust Fund. Do you know the figure of what is in the trust fund to which you refer—and I must add that part of the leadership agreement was to take the local cost sharing from the Fund—the total available for appropriations is estimated at $322 million by the end of 1987, which includes $26 million the administration has requested to use in the 1987 budget.

There are only four projects, I believe, that are ready for construction. I have a parochial interest in the Bonneville navigation lock, but you have requested $10 million there. Certainly, out of the $322 million in the trust fund, there would be an additional $10 million available for the beginning of that construction.

NEED FOR AUTHORIZATION BILL

I think the point that I want to clarify is there is no requirement for enactment of the omnibus authorization bill before construction can begin on those projects. There is no requirement, is there, Mr. Secretary?

Mr. DAWSON. Again, Mr. Chairman, certainly there is no specific requirement in the law for that, I would agree with you.

Chairman HATFIELD. Public Law 99–88 gave the Secretary of the Army every authority to proceed with construction upon a satisfactory agreement worked out with the local sponsors regarding cost sharing. We didn't put any limits on it, did we?

Mr. DAWSON. No, sir. But, again, part of that responsibility, which I agree the Secretary of the Army was given, had unusual leeway. We feel the need, the compulsion, to move ahead on those projects, but we feel that it is equally important to get in place the fees that will ensure the future of the program.

Chairman HATFIELD. Then you are, in a sense, holding the inland waterway improvements hostage.

Mr. DAWSON. That is certainly not our intention, Mr. Chairman.

Chairman HATFIELD. What is your intention?

Mr. DAWSON. It is our intention to have a program, Mr. Chairman, that will withstand the future budget reductions that appear to us as being inevitable.

INLAND NAVIGATION VERSUS FLOOD CONTROL COST SHARING

Chairman HATFIELD. All right, then, let's take that to the next step. We have projected the amount of $322 million available for cost sharing on the inland navigation projects under the existing fuel tax by the ending of 1987.

Mr. DAWSON. I don't believe that we have it yet.

Chairman HATFIELD. But, you are proceeding with the flood control projects. What is the correlation then of any cost-sharing structure which currently exists for flood control projects?

Mr. DAWSON. There we do have cost-sharing principles that we are proposing. As you know, we are using the——

Chairman HATFIELD. In place, a corollary to the inland waterway fuel tax—the $322 million available for cost sharing, that is currently in place or will be available as it relates to inland navigation projects. What is the correlation for the flood control projects?

Mr. DAWSON. There is certainly no comparable trust fund or pot of money, you are absolutely correct, Mr. Chairman.

Chairman HATFIELD. You want to increase the percentage and the fuel tax in the so-called leadership agreement for deep draft and inland navigation projects, which I have to admit I played a major part in. So I have a little background on what we had intended and what we very plainly and very clearly explained in the record.

Mr. Secretary, again, I can't understand what the logic is to proceed with the flood control projects, but not inland navigation projects, when you have far more certainty in non-Federal funding participation on the inland navigation projects through the fuel tax and Inland Waterway Trust Fund, than you have on the flood control projects.

USE OF TRUST FUNDS

Mr. DAWSON. One logic, I think, Mr. Chairman, is that as we take flood control projects one by one, we have an identifiable local sponsor who will have to face up to the cost sharing requirements that we impose, until the Congress speaks and imposes it itself. With the inland projects, there is no identifiable local sponsor, and we are, of course, looking to the trust fund as the only source of that revenue. So in the future, as we look to flood control projects that come down the line for years to come, the cost-sharing percentage, I believe, will provide an adequate mechanism to ensure the financial stability of the program.

I certainly agree with your point that we have a good start on the inland projects, and I believe that the trust fund moneys you mentioned would pay only 50 percent of the costs that we incur. Again, what we are looking at is an effort in the future to build on what we already have, which is excellent, and I agree with you is very significant, but it does not appear to be enough to take care of the future in an unlimited way.

SUFFICIENCY OF INLAND WATERWAY TRUST FUND

Chairman HATFIELD. Let's pursue that, Mr. Secretary, because you raise a valid point in your argument. Let's assume that there is no change in the current level of the fuel tax, let me ask you a straightforward question. Would sufficient funds be available in the trust fund to cover the non-Federal share; in other words, the local cost share, of construction of the initial four, and ultimately the seven inland navigation projects included in the supplemental?

Mr. DAWSON. I believe that there would be sufficient funds.

Chairman HATFIELD. So, there is no gamble or risk on these initial four inland navigation projects from the standpoint of the existing funds that will be available to cover the non-Federal cost as against the so-called flood control projects, that is very vague, very prospective, unsettled in terms of, you said, we have to negotiate those, and have those worked out by a local sponsor group. That is very vague. You have concrete money on the inland navigation side.

Mr. Dawson. Yes, Mr. Chairman, but I don't believe that there is any guarantee that those seven will be all that are ever undertaken.

PROVISIONS OF SUPPLEMENTAL

Chairman Hatfield. That is not what the fiscal year 1985 supplemental dealt with, Mr. Secretary. We are dealing with specifics, we are not going beyond at this point. You and I can't guarantee anything 20 years down the road. We are dealing with a fiscal year 1985 supplemental that didn't just authorize you, but "authorized and directed" you to proceed with planning, design, engineering, and construction.

You come in here saying to me, well, I can't see beyond 1986, 1987, maybe 1988, there may be bigger projects, more projects. But that is not what we are dealing with. We are dealing with the law, a law that was signed by the President of the United States, and enacted.

The debate and understanding in the Congress was very clear. The Senate included 25 projects, you may recall. The conference committee took the Senate language, and then increased the number of projects to 41. The House of Representatives, if you recall, accepted that 41. The conference report was subject to a great deal of debate, and the House of Representatives added to that conference report language making construction subject to subsequent enactment of authorizing legislation.

But then, listen to the next step that was taken. The Senate agreed to the amended language in the conference report, but we added, "but provided," that is very important, "provided." We put in a proviso that said after a date certain, authorizing requirements would terminate, and the date that we set in that law as May 15, 1986. After May 15, it was clearly envisioned that construction would proceed without delay—but you are delaying it.

Mr. Dawson. No, sir. We very much want these projects, and we want to move. We don't anticipate——

Chairman Hatfield. What is the obstruction for not proceeding as you want to?

Mr. Dawson. We don't believe that there will be ultimately any obstruction, if we can get the bill that I know you support, and we are working to get the bill passed and enacted. It is certainly our hope and belief that there won't be any real delay.

We are preparing, we are moving along with the planning, specifications, engineering, and design on these projects, as you are well aware, so that we don't encounter any delay. Certainly we don't intend to have any delay.

IMPORTANCE OF PROCEEDING WITH NEW STARTS

Chairman Hatfield. Mr. Secretary, you and I do not disagree one bit in pushing for cost sharing or user fees. Let me remind you that I am one of the few Western Senators who supported cost sharing from the very beginning. We worked out a formula for the ports of this country, to have it placed in the law. It was, as you know, included in the legislation marked up by the authorizing committee and it will probably go to the floor.

I support the principle, but let me remind you, we have not had an authorization bill, a comprehensive omnibus authorization bill for 15 years. General Heiberg made a very eloquent statement about the tremendous need and asset these inland waterway projects are to the Nation. To tie these capital improvements to enactment of this omnibus bill is misguided and puts the entire system in jeopardy

You talk about the need, and importance of some kind of a viable program, Mr. Secretary, and you are putting that into jeopardy by using these projects as leverage, holding up the projects that you have no need to hold up because they are fully authorized, you are fully directed by law to proceed with the projects, and the inland projects have a cost-sharing structure in place. But the administration wants to use this as leverage to get the authorization bill through, which I support and you support. You are risking reducing your whole program to nothing but an operation and maintenance function. We have already had some of our colleagues who don't like the new bill, the cost sharing, the port user fee proposals indicate the possibility for delay or amendment.

You are taking that gamble, and I think that it is a very, very risky one, plus the fact that you have no legal—in my view, no legal obstacle to proceed immediately, and that was the full intent. I was part of the leadership, and I helped to draft that leadership agreement. I helped to draft the Senate language which was adopted in conference. The final compromise merely reinforced the position that after May 15, 1986, construction would proceed. I know precisely what the intent of the Congress was.

Now, the administration, in effect, is saying, in spite of all the legislative history, in spite of the direction, in spite of all the instructions included in the law, we are not going to move on the navigation projects, particularly the inland projects. I can't understand it. Have you talked to your legal counsel on the legality of not proceeding with construction?

Mr. DAWSON. Yes, sir. In light of your strong concern here, we will certainly revisit that, and provide to you any written basis that we can.

SUPPORTIVE BUT CONCERNED

Chairman HATFIELD. You have my full support on S. 1567 and I will work hard to get that authorization bill through. I will fight to keep cost sharing and the use fees. But, Mr. Secretary, please review this in the light of all the pitfalls between now and the time the President could sign an authorization bill. If we neglect to undertake the projects where we have the cost-sharing funds to do so, and the direction of law to do so, I think that it is an unnecessary risk, and I don't really think that it is really wise. I just hope that you will review that.

Mr. DAWSON. We certainly will, Senator. We will provide a legal brief for the record.

Chairman HATFIELD. I have been in this business for 36 years, and I understand how you can link things together and get two objectives accomplished. I am with you on those objectives, but I am only one vote.

I have several other questions relating specifically to this basic principle, but these questions are almost irrelevant until we really get a clear understanding of the fiscal year 1985 supplemental, which not only authorized the construction, but provided for cost sharing as well. I urge you to take a look at that, and come up here and tell us in a supplemental statement that you are ready to proceed at this time on four of those projects based on cost sharing.

[The information follows:]

Memorandum From Susan J. Crawford, General Counsel, Department of the Army

13 March 1986

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE ARMY
(CIVIL WORKS)

SUBJECT: Legal Requirements of Supplemental
Appropriations Act of 1985, P. L. 99-88

You have asked for a legal opinion addressing two questions asked of you during your testimony before Congress on February 18 and 20, 1986. On February 18, Chairman Bevill of the Subcommittee on Energy and Water Development, Committee on Appropriations, House of Representatives, asked you to submit an opinion explaining the legal basis for your decision not to spend appropriated monies on the Parker Lake project. On February 20, at the Senate Hearing on the Fiscal Year 1987 Civil Works budget, Senator Hatfield asked you to provide the legal basis for the decision not to start construction of inland waterway projects authorized by P.L. 99-88 until user fee legislation was enacted.

P.L. 99-88 authorizes the Secretary of the Army to construct 41 water resource development projects. The Act also appropriates an additional lump-sum of $48 million to the "Construction, General" appropriations account, and an additional lump-sum of $800,000 to the "Flood Control, Mississippi River and Tributaries" account. P.L. 99-88 makes no specific appropriation of funds to be used on any specific projects.

It is my understanding that the Army intends to spend all of the money appropriated in P.L. 99-88. Unfortunately, complete construction of all 41 projects would cost the federal government more than $2.4 billion. Having been appropriated only $48 million the Army must make difficult decisions to determine to what extent projects will go forward and when. Congress recognized this and, as discussed below, by using a lump-sum rather than a line item appropriation, granted the Army the discretion to make these difficult decisions.

Given limited funds, you have decided not to begin construction of the thirteen deep draft projects, having a federal cost over $1 billion and the four inland waterway projects, requiring expenditure from the general fund of almost $500 million, until Congress has enacted legislation that would enhance federal revenues by establishing a port use ad valorem fee and increasing the inland waterways fuel tax. These were important elements of the agreement between the administration and the Senate majority leadership concerning cost-sharing for future projects. Similarly, you have decided that use of the limited funds for projects with essentially the single purpose of municipal water supply, such as Parker Lake, is not appropriate. In my opinion, this is entirely within the Army's discretion.

The Comptroller General has held that lump-sum appropriations may be expended on any authorized activity within the scope of that appropriation. *In the matter of LTV Aerospace Corp.*, 55 Comp. Gen. 308 (1975). In that case the Comptroller General noted that "Congress has recognized that in most instances it is desirable to maintain executive flexibility to shift around funds within a particular lump-sum appropriation account so that agencies can make necessary adjustments for 'unforeseen developments, changing requirements, ... and legislation enacted subsequent to appropriations'" *Id.* at 318 *quoting* Fisher, *Reprogramming of Funds by the Defense Department*, 36 The Journal of Politics 77, 78 (1974). The Comptroller General went on to hold that:

> [I]t is our view that when Congress merely appropriates lump-sum amounts without statutorily restricting what can be done with those funds, a clear inference arises that it does not intend to impose legally binding restrictions, and indicia in committee reports and other legislative history as to how the funds should or are expected to be spent do not establish any legal requirements on Federal agencies.

Id. at 319.

Accordingly, since P.L. 99-88 contains no restrictions on the use of funds appropriated to the Construction, General appropriations account or to the Flood Control, Mississippi River and Tributaries appropriations account, the Secretary of the Army has the responsibility to expend the funds in a manner that recognizes the limited amount available. To carry out this responsibility, he has the authority to determine when and under what circumstances to expend the funds provided by the Act to undertake any of the projects specified in the Act.

Susan J Crawford

Susan J. Crawford
General Counsel

COST SHARING FOR MR&T PROJECT

Chairman **HATFIELD**. The Senator from Tennessee.

Senator **SASSER**. Thank you very much, Mr. Chairman.

Mr. Secretary, let me say that I join in what Senator Cochran said earlier in urging the completion of the Mississippi and tributaries project.

I would call your attention to an article that appeared in this week's Memphis Commercial Appeal, a newspaper, I suspect, you are familiar with. There was a story in that newspaper, based on an interview with you, which stated and I quote the story:

> Mid-South Congressmen are concerned about applying cost sharing formulas to the continuing flood control projects of the Mississippi River and tributaries project.

Let me stress to you today, Mr. Secretary, that I am one of those concerned Congressmen.

The story goes on to say, and I am quoting further:

> The administration wants local sponsors to contribute 25 to 35 percent of the cost for flood protection, 35 percent for irrigation, 50 percent for recreation, and 100 percent for power and water supplies. Dawson said that the administration recognizes the Mississippi drains 40 percent of the country, and 80 percent of the work to it continue to be exempt.

This is the end of the excerpt. The article would indicate that you will be applying local cost sharing to ongoing projects. Is that correct, Mr. Secretary?

LIMITED APPLICATION TO NEW STARTS

Mr. **DAWSON**. To ongoing projects, no, sir. The plan in the MR&T, as you quoted in part, is to try to recognize the very special nature of that project, but at the same time grasp the budgetary reality that we are faced with. It is my considered opinion that if we don't do that with the MR&T project, we will not get a bill signed, a bill that is very important to that project, and to that part of the country, as to every other part of the country.

What we are saying is that the vast majority of that project won't change at all in the cost sharing. The main stem, for example, where we do have 40 percent of the Nation's waters draining out, would not change.

What we are saying is that when you have a tributary that is impacted by drainage from its own watershed, and is no different from another tributary 50 or 100 miles away, then a project on that tributary would have to be cost shared. We have no choice if we are to be equitable and consistent, and expect to get a bill signed into law.

We are trying very hard—and we want to work with you, because I know of your strong interest—to respond to those concerns, and yet at the same time to get something through that we can get signed.

Senator **SASSER**. I appreciate that, Mr. Secretary.

Do you know how much of the MR&T would be exempt?

Mr. **DAWSON**. I believe the article mentioned that we are looking at 80 percent, because it is actually ongoing. What we are trying to do, in a fair and reasonable, common sense nature of the term, is to identify those areas that have not gotten underway, and that are truly separable elements that stand on their own.

Senator SASSER. I think that we really should be very careful with any cost-sharing formula. Some communities, as you know, are richer than others. Some communities can pay more than others. But we may find the poorer communities, in the final analysis, are in more need of water resource development.

I think that we should be very careful, and I hope you will be, in applying a strict, rigid, and inflexible formula to water projects.

SALE OF POWER MARKETING ADMINISTRATIONS

Let me move on to another point. I am very concerned about the administration's proposal to begin selling off the Bonneville Power Administration, and the four other power marketing agencies.

It is a well settled policy in this country, and it has been for almost a half a century, that there is a place in the production of electrical energy for public power to play a role. I think that the Bonneville Power Administration and the power marketing agencies have played a very productive role. I suspect that if the administration is successful in selling Bonneville Power, the next time around, they will want to sell the Tennessee Valley Authority, and I would be even more opposed to that. [Laughter.]

I think that the five power marketing agencies, and TVA, represent a proper function for the Federal Government. In addition, they are revenue-producing agencies for the Federal Treasury. To sell them for a short-term deficit reduction, I think would be exceedingly bad long-term policy.

QUESTIONS SUBMITTED FOR THE RECORD

Selling the power marketing agencies impacts on the operation of the Corps of Engineers' dams. I will have a number of questions concerning your perspective on the sale of these power agencies. Serious issues concerning the operations of multipurpose dams are raised, I think, by the proposals to sell Bonneville and the other power marketing agencies. I want to submit these questions, Mr. Chairman, if I may, for the record.

Chairman HATFIELD. We will be very happy to have the Senator's questions for the record. I might comment, it would be easier to sell TVA than Bonneville for two basic reasons. One, TVA owns its own dam and Bonneville doesn't. Second, TVA does not depend on an international treaty, which Bonneville does. So, it would be much simpler, Senator, to sell TVA. [Laughter.]

Senator SASSER. Mr. Chairman, I was attempting to make common cause with you, and I find myself hoisted on my own petard here. [Laughter.]

Chairman HATFIELD. I want to assure my colleague that we are in common cause, believe me, more than he may realize.

Senator Sasser. I thank you, Mr. Chairman.

[The questions and answers follow:]

ADDITIONAL QUESTIONS SUBMITTED BY SENATOR SASSER

PRIVATIZATION OF POWER MARKETING AGENCIES

Senator SASSER. What does the Administration propose in its plan to "privatize" the Federal Power Marketing Administration? Does the Administration plan to sell the physical facilities owned by the Corps, i.e., powerhouse, dams, turbines, transmission lines substations, or simply plan to sell the output from the facilities?

Mr. DAWSON. While the details have not been fully determined, the Administration would, through appropriate legislation, propose to turn over power generating facilities to private companies. Logical business units consisting of powerhouses, turbines, and transmission lines would be sold. Title to dams would be retained by the Federal government.

Senator SASSER. You are well aware of the extent and complexity of existing multipurpose projects. Multipurpose dams provide a number of public benefits, including flood control, navigation, recreation, irrigation and municipal and industrial water supply. Who will coordinate these public benefit functions when the PMAs are sold? How will these functions be coordinated? Who will control the flow of the river? What functions will be given priority? What type of priority will electric production be given? How will that priority affect financing for the sale of PMAs?

Mr. DAWSON. The priorities that will need to be established will depend in large part on site specific conditions at each power generating facility. However, the Administration has proposed an interagency group be established to develop the operational rules and apportionment guidelines, which we expect to closely resemble current operational rules and guidelines. Moreover, the Federal Government will retain authority to regulate streamflow. Selling price and financing arrangements will be influenced primarily by the quality of the assets, and secondarily by the operational conditions stipulated in each sale.

Senator SASSER. Is it assumed that buyers of the PMAs would finance the sale by revenue bonds where repayment of the bond is based on the output from the projects. How will the priority given to multi-purpose projects affect the rating or the marketability for these bonds?

Mr. DAWSON. The bond rating and marketability of the bonds should be unaffected, if the sale price and financing arrangements are appropriate for the quality of the assets and the anticipated operating conditions.

Senator SASSER. Under current power marketing policies, public bodies are given first right to buy federal power. Would this preference right be continued if the PMAs were are sold?

Mr. DAWSON. This would be determined by legislation authorizing the sale.

Senator SASSER. How would existing PMAs sales and transmission contracts be honored? Would they be terminated? Would they be renegotiated?

Mr. DAWSON. This would be determined by legislation authorizing the sale. We assume that existing PMA's sales and transmission contracts would be honored to the extent of the law and any binding commitments.

Senator SASSER. Under current law, PMAs must repay to the Federal government all costs of construction, operation and maintenance for federal power production and transmission, including principal and interest. The price of Federal power is based on the cost of production. How would cost-based pricing be affected by the sale of PMAs?

Mr. DAWSON. While current law requires full repayment, most PMAs have routinely failed to make planned payments and are an annual drain on the Federal treasury. Pricing will more accurately reflect cost of production after the sale of PMAs.

Senator SASSER. Hydropower revenues not only repay 100 percent of its own costs but also directly assist the repayment of a significant portion of the costs of irrigation, salinity control, and fish and wildlife mitigation at many federal dams. How will these costs be affected by privatization of the PMAs? Who will pay for these functions?

Mr. DAWSON. This would be determined by legislation authorizing the sale.

Senator SASSER. Will the sale of PMAs affect any international treaties with respect to flood control and power exchanges?

Mr. DAWSON. The effect the sale of PMAs will have on international treaties will need to be determined on a case-by-case basis.

Senator SASSER. How will privatization of the PMAs affect the Corps' responsibilities for basin wide flood control operations?

Mr. DAWSON. Privatization of PMAs will not affect the Corps' flood control operations.

Senator SASSER. How much money does the Administration anticipate charging for PMAs? Will the sale price be based on the repayment of debt still owed on the PMAs? Will it be based on the book value of the facilities? Will it be based on the current replacement costs for the facilities or will it be based on the market prices?

Mr. DAWSON. The President's budget for 1987 assumes the sale price will be based on the unpaid Federal investment at the time of the sale. This is only a budget assumption, and the actual sale price could differ.

ADDITIONAL PREPARED QUESTIONS SUBMITTED FOR THE RECORD

Chairman HATFIELD. As I indicated, there will be further questions submitted for the record. Also, Senator Goldwater, Senator Byrd, and Senator Hollings have some questions as well.

Mr. Secretary, do you have any last remarks that you wish to make?

Mr. DAWSON. No, Mr. Chairman, other than to thank you and members of the subcommittee for your hospitality. We look forward to working closely with you on all of these issues to get our program moving.

Thank you very much.

Chairman HATFIELD. Thank you very much, Mr. Secretary, and Generals.

[The questions and answers follow:]

ADDITIONAL QUESTIONS SUBMITTED BY CHAIRMAN HATFIELD

FISCAL YEAR 1987 PROGRAM FUNDING LEVEL

Chairman HATFIELD. The 1987 budget request for the Corps of Engineers is $3,069,500,000. This is an increase of 13.8 percent over the Gramm-Rudman-Hollings reduced level and 8.8 percent over the 1986 level of appropriations. These are sizable increases, particularly when other domestic programs are having to take large cuts, and some programs are being terminated. Why do you believe such a large increase is warranted?

Mr. DAWSON. The primary reason that the FY 1987 budget appears some 13.8 percent higher is that the FY 1986 appropriations did not include follow-on funding for the FY 1985 construction starts; that amounts to $230 million in the FY 1987 budget. Reduction of the FY 1987 budget request by that amount would result in a program funding level below that appropriated by FY 1985 and within some $17 milion of the FY 1986 appropriations.

Chairman HATFIELD. Does the large increase accelerate project completion schedules or are we talking mainly about the funding for new construction starts? The budget includes more than a 12-percent increase over the adjusted 1986 level for General Administrative Expenses. What has changed over the past year to justify such a large increase in this area?

Mr. DAWSON. The FY 1987 request for the Construction, General, account is based on current schedules for ongoing projects and the proposed work phasing and cost sharing agreements for the FY 85 new construction starts. Funding for the FY 1987 recommended construction starts is comparatively small, some $47 million.

The FY 1987 budget request for General Expenses is the same as that appropriated for FY 1985. The reduced appropriation level for FY 1986 basically reflected a 10-percent reduction in administrative costs imposed by the Congress across all accounts.

GRAMM-RUDMAN-HOLLINGS

Chairman HATFIELD. The Corps of Engineers will lose more than $121 million under Gramm-Rudman-Hollings. What impact will this reduction have on your programs, particularly on projects in the construction accounts?

Mr. DAWSON. While the reductions will impact all programs, projects, and activities, we should be able to achieve the targeted outlay reductions by slipping some scheduled work and deferring some other scheduled work to FY 1987.

Chairman HATFIELD. Is there any way to estimate the increased cost associated with the Gramm-Rudman-Hollings?

Mr. DAWSON. The cost of the delayed work will be increased by inflation over the period which it is delayed. However, we expect to manage the reductions so that there will be no major disruption to the program and the increases will be minimal.

Chairman HATFIELD. What do you estimate to be the net savings?

Mr. DAWSON. There will be no net savings to the total costs of programs, projects, and activities affected by Gramm-Rudman-Hollings reductions. However, we recognize that the nation needs to get the budget deficit under control and we are ready to do our part. The reductions in new budget authority will be reflected in a reduction in the level of obligations incurred in FY 1986 and a reduction in the anticipated unobligated carryover into FY 1987. This will result in lower than anticipated outlays for FY 1986 and FY 1987.

Chairman HATFIELD. What would be the impact of a 15 to 20 percent reduction in 1987 on your programs and activities?

Mr. DAWSON. I will provide that information for the record.

[The information follows:]

IMPLICATIONS OF PROGRAM REDUCTION

A reduction of 15-20% in the FY 1987 budget request for the individual appropriation accounts would result in a decrease of $512.5 million in the Army's $3,078.5 million budget request for the FY 1987 Civil Works program. The impact of such a reduction on the FY 1987 proposed program will be severe. How severe will depend upon how the reduction is applied. If applied proportionately, as required by the Gramm-Rudman-Hollings Act, on an individual program, project and activity basis, the impact will be unduly severe; under this approach, our reprogramming authorities, even though made more flexible under Section 101(g) of PL 99-190, would no longer be sufficient to execute a meaningful program. On the other hand, if the reduction is applied at the appropriation account level and the agency is given the ability to reprogram and, in effect, develop a new operating budget, the impact of the reduction would be less severe. A table comparing the proposed reductions to the FY 1986 appropriations and FY 1987 budget request is attached for reference purposes.

The impacts attributable to the way the reductions are applied would be quite different for those programs, projects and activities funded under the Construction, General, Operation and Maintenance, General, and the Flood Control, Mississippi River and Tributaries accounts. Funding of the executive direction, administration, and management of the overall program under the General Expenses account would be a particular concern. With Congress once again funding new construction starts, fiscal reductions to an ongoing and revitalized program necessitate greater emphasis on those activities, the funding of which would still be required. The more critical programmatic impacts that would accrue are listed below by individual appropriation accounts.

IMPACT ON CONSTRUCTION, GENERAL PROGRAM

A decrease of $187.5 million would be applied to the $1,072.5 million included in the President's FY 1987 budget for the Construction, General program. If the same percent reduction was applied to each program, project, and activity, work on the construction new starts - those proposed for initiation in FY 1987 and those funded by the FY 1985 Supplemental Appropriations Act - would be particularly hard hit. The obvious need to reprogram funds to cover shortfalls on ongoing projects could justify delaying the award of, or rescoping the initial contract for, all of the FY 1985 and FY 1987 new construction starts in order to limit the obligation and outlays of funds during the budget year and the outyears. Proportional reductions of this magnitude for ongoing construction projects would result in a constrained, no-gap funding level program being imposed. Under this constrained program, new contract awards would be allowed only to prevent a gap in the construction work at each project. Furthermore, since most construction contracts are awarded on a continuing basis and are funded incrementally each fiscal year, it might be necessary to terminate some contracts if sufficient funds were not available for all ongoing continuing contracts at a specific project. Funding shortfalls would also result in delaying completion and realization of benefits from the projects. In such cases, the cost of stopping and restarting construction could exceed the costs to complete these projects. Good program execution under this scenario would be extremely difficult. If, however, our reprogramming authority was enhanced to permit the reprogramming of funds between appropriation accounts, many of the unacceptable funding situations just described could be avoided and/or minimized.

If we are permitted to reprogram the reduction in the Construction, General account and provide for the most efficient and effective means of meeting our program objectives and requirements, then emphasis would be given to: initiation of construction of those new starts on which we have contractually agreed to proceed; finishing projects that are budgeted for completion in FY 1987; continuing projects that would provide mainline benefits, namely flood damage reduction, commercial navigation, hydropower, or M&I water supply; slowing down or terminating projects that would provide little or no mainline benefits; and delaying the initiation of new start construction projects if we have not signed an agreement with the local project sponsors. These measures would maintain, to the most practicable extent feasible, our scheduled commitments for project construction with mainline benefits. The potential for a reduced level in the Federal investment for new starts in the outyears could result in some sponsors deferring their participation until a more effective construction schedulue can be assured, the borrowing and repayment of their share being contingent upon timely realization of the vendible outputs.

IMPACT ON OPERATION AND MAINTENANCE, GENERAL PROGRAM

The $1.42 billion included in the President's FY 1987 budget for the Operation and Maintenance, General program would be reduced by $220 million. If the reduction was applied proportionately across-the-board, the result would be to reduce the funds available for operation and maintenance of: the 250 harbor projects and 37 inland waterways by $141 million; the 280 flood control projects by $33 million; and the 70 hydroelectric power projects by $46 million. For all recreational and some commercial harbors, the across-the-board cuts would result in dredging reductions. Transfer capabilities would be used to minimize the extent of disruption to commercial traffic, particularly for the ports with large cargo movement. In addition, operation of the locks on the major waterways would be reduced, while those waterways with reduced commercial traffic would be converted to caretaker status. Operation and maintenance activities at the flood control and hydropower reservoirs also would be reduced. Reduction in power output would be minimized by adjustment in the operating schedules, but less effective control of river flows could result in adverse impacts below the Corps reservoirs. Concurrently, the number of recreation areas operated by the Corps would be reduced, as would the hours that those facilities remain open to the public. Finally, some, if not all preventive maintenance, both structural and for equipment, scheduled to be undertaken during the budget year would be deferred so that continuing maintenance contracts could be completed.

If the $220 million reduction was applied programmatically, some $58.0 million for dredging of approximately 50 navigation projects which carry less than 25,000 tons of commerce annually would be deferred. Similarly, scheduled maintenance amounting to $162 million for the other individual flood control, navigation, and hydropower projects would be deferred. Under this reprogramming scenario, disruption to commercial traffic would be minimized and, on a comparative basis, less serious maintenance deferred. In all cases, the cost for the deferred maintenance will increase due to inflation and the adverse effects from continued use and exposure until finally undertaken in the outyears.

IMPACT ON MISSISSIPPI RIVER AND TRIBUTARIES PROJECT

A reduction of $58.0 million would be applied to the FY 1987 budget request of $298 million for the MR&T project. Proportional reduction in the individual studies, engineering and design, construction, and operation and maintenance activities funded under this project would result in programming situations, particularly on construction, that would require transfer of funds to avoid unacceptable impacts. Under the planning phase of the MR&T program, three studies scheduled for completion in FY 1987 would require transfer of funds to avoid the need to seek additional funds in FY 1988. In addition, the funding of one cost-shared feasibility phase study would be restored, given the financing commitments made by the sponsor. The other studies will be delayed, including two cost-shared feasibility studies that are scheduled for initiation in FY 1987.

Impacts on the construction program would be particularly severe. Contingent upon the availability of funds, the reductions to the construction program would result in the indefinite deferral of 1-1/3 miles of river revetments, and delay in initiation of 31 levee and channel contracts on six main stem and tributary basin projects. Sufficient funds would be transferred in to assure the scheduled completion of the Old River Auxiliary Structure. Initiation of the contract for dam safety assurance on Sardis Dam would be delayed approximately one month. In some cases, delay of the contracts could range from 3 months to the entire construction season.

The reduction in the operation and maintenance program, particularly following the FY 1986 reduction, will result in further deferral and delay of project maintenance. Some dike maintenance and channel dredging will be eliminated. Main stem navigation could be disrupted by the reduction of normal year dredging requirements by 34 dredge days and by being able to dredge only the mouth of harbors. All dike maintenance and some revetment maintenance on the main stem of the Mississippi River would be eliminated, greatly increasing dredging requirements in future years due to increases in divided flow conditions. A contract in a highly populated area for the main stem levee setback program would be delayed. Repairs to damaged lock guidewalls would be delayed six months, increasing the risk of greater damage. At the five MR&T reservoirs, only breakdown maintenance necessary to assure health and safety of the public would be performed. Essential levee and channel repairs would be delayed in tributary basins, increasing the risk of flood hazard and added costs of repairs when performed.

If we were permitted to reprogram the work under this account, all of the reduction would be applied to the construction and operation and maintenance phases of the project. The impacts on and partial solutions for the general investigations program, described above, would be retained. Of the $58 million, some $38 million in new construction contracts for three ongoing flood control projects would not be awarded. However, all other features of the construction program would proceed as scheduled, including two new FY 1985 construction starts. The balance, $20 million, of the reduction would be applied to the maintenance program. Involved would be the deferral of scheduled repairs to existing structures, other than those programmed for the revetments and dikes. Deferral of such work would permit continued operation of the project and accomplishment of the necessary dredging work to keep commercial navigation efficiently moving on the Mississippi River.

IMPACT ON THE GENERAL INVESTIGATIONS PROGRAM

The President's budget includes a request of $127 million for the General Investigations (GI) program. The reduction of $22.0 million would, if taken proportionately on all activities, cause delays of from 1 to 3 months on each study and project preconstruction planning and engineering. There are 75 studies being budgeted for completion in FY 1987. Preconstruction planning and engineering on 18 projects also is being budgeted for completion in

FY 1987. All of these studies and activities scheduled for completion would be delayed and additional funds would be required in FY 1988. However, funds for the 75 studies and 18 projects will be augmented by transfer, as will the work funded under the collection and study of basic data category. Much of the data collection work is done by other Federal agencies and is critical to the planning, engineering, design and operation of our projects. The research and development activities funded under this account would also be delayed. In many cases, applications of research and development are focused on new and more sufficient methods of doing our work, particularly in the construction and operation programs. Delays in R&D will delay progress on and efficient accomplishment of those programs.

If we were permitted to reprogram the reduction in the GI account, most of the cuts will remain the same. However, funds would be restored (by transfer) for those studies and projects that would provide high priority outputs.

IMPACT ON THE GENERAL EXPENSES ACCOUNT

The President's budget includes a request of $115 million for the General Expense account of the Civil Works program. The reduction of $18.0 million would prove particularly constraining to the effective management of the overall program. It is not feasible to take proportional cuts on all activities funded under this account. About $9.5 million are fixed costs required to pay for the rent, utilities and communication costs for the headquarters, 11 division offices and 4 support activities. In addition, some $23.5 million of mission support costs have to be met from an organizational standpoint. This leaves a balance of $82 million in personnel costs. This category of cost would have to absorb most of the reduction imposed on this account. There are 1,750 civilian and 80 military officer positions that are directly involved in the direction and management of the overall Civil Works program. A cut of this magnitude would necessitate funding the equivalent of 250 workyears from other sources. To continue the quality leadership and direction necessary to assure that all programmed activities are planned and executed effectively, and are responsive to the objectives and intent of both the Administration and the Congress, would require us to look for alternatives to the threat of a reduction in our personnel.

OTHER PROGRAM IMPACTS

A reduction of $7.0 million would be applied to the FY 1987 budget request of $37 million for both the Flood Control and Coastal Emergencies and the Revolving Fund accounts. The reduction of $5.0 million in the Flood Control and Coastal Emergencies account would primarily affect the Corps' flexibility in responding to emergency situations. The $2.0 million reduction to the Revolving Fund would delay contract awards to initiate the acquistion of automated equipment and construction of a replacement dustpan dredge.

PERSPECTIVE

The level of reduction under consideration for the FY 1987 budget could impose a secondary but just as serious effect on the future of the Civil Works program. Resolution of the impasse over cost sharing and financing for the study, construction, and operation and maintenance phases have resulted in the high likelihood of new construction starts this year. The level of non-Federal contribution as a percent of the Army's program is projected to increase significantly; the non-Federal share of project investment for the FY 1987 new construction starts is estimated at 37%. In addition, pending legislation will provide new sources of income in the form of user fees. The use of these receipts would markedly reduce the Federal level of general fund appropriations, even though the level of funding for the overall program has increased.

Congress has indicated that the agency's reprogramming actions should not reorder funds or priorities. But the magnitude of this proposed reduction is such that the efficient prosecution and completion of scheduled work would be greatly facilitated if the reduction included authority to transfer funds between appropriation accounts and to reformulate a new operating budget that would be responsive to Federal contractual and legislative commitments while maintaining the integrity of the Federal investments in place and protecting public health and safety.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS - CIVIL WORKS
COMPARISON OF PROGRAM AMOUNTS FOR FISCAL YEARS 1986 AND 1987
(DOLLARS IN THOUSANDS)

	FY 1986			FY 1987		
ACCOUNT TITLE	APPROP. (1)	DEFICIT REDUCT. [a] (2)	ADJUSTED BUDG. AUTH. (3)	PRESIDENT'S BUDGET REQUEST (4)	SENATE APPROP. COMM. [e] (5)	DIFFERENCE (6)
General Appropriations						
General Investigations	128,972	5,494	123,478	127,000	105,000	22,000
Construction, General	919,345	39,515	879,830	1,072,500 [b]	885,000	187,500
Operation & Maint., General	1,319,973	56,725	1,263,248	1,420,000 [c]	1,200,000	220,000
Flood Control, Mississippi R. & Tribs.	314,760	13,535	301,225	298,000	240,000	58,000
General Expenses	107,000 [d]	4,601	102,399	115,000	97,000	18,000
Flood Control & Coastal Emerg.	25,000	1,075	23,925	25,000	20,000	5,000
Revolving Fund	7,000	301	6,699	12,000	10,000	2,000
Subtotal, Gen. Approp.	2,822,050	121,246	2,700,804	3,069,500 [c]	2,557,000	512,500
Permanent Appropriations	9,000	0	9,000	9,000	9,000	0
Subtotal, Fed. Budget Authority	2,831,050	121,246	2,709,804	3,078,500	2,566,000	512,500
Rivers & Harbors Contributed Funds	96,000	0	96,000	227,000	NA	NA
TOTAL PROGRAM	2,927,050	121,246	2,805,804	3,305,500	NA	NA

[a] Reductions are to be reflected in anticipated obligations to be incurred in FY 1986 and unobligated carryover into FY 1987. This will result in a reduction in FY 1986 outlays of $86.3 million and in FY 1987 outlays of $35.2 million.

[b] Includes second year, follow-on funding of $256 million for the FY 1985 Supplemental new construction starts, of which $26 million is to be appropriated from Inland WW Trust Fund.

[c] Pending legislation, if enacted in FY 1986, would result in the collection of $203 million in receipts in FY 1987, which upon appropriation from a proposed Harbor Maint. Trust Fund, would be used to reduce the O&M, Gen. appropriation.

[d] Supplemental to transfer $3.0 million from O&M, General account is to be submitted by the Administration.

[e] As requested by Senator Hatfield (Opening Day) for 15-20% cut to budget request. Assumes for purposes of this exercise that cut would be proportional by account.

EMPLOYMENT IMPACT

Chairman **HATFIELD**. What would be the impact of such a reduction on employment?

General **HEIBERG**. The FY 1987 budget for the Civil Works Program includes $3.08 billion in Federal appropriations and $228 million in non-Federal contributions for a total funding of $3.3 billion. It is estimated that this funding level would support some 74,000 workyears of direct and offsite employment and would provide over 95,000 jobs to the nation in FY 1987.

A reduction of some $512 million in Federal appropriations would, in all probability, drastically reduce the level of non-Federal contributions; the necessity to meet ongoing contractural and legislative commitments would minimize effective funding of new starts. Under such a scenario we estimate that the reduced funding level would support some 15,000 fewer workyears of direct and offsite employment and make available some 19,000 fewer jobs to the nation in FY 1987.

It is difficult to estimate specific impact on Corps employment within this framework because we would, of course, attempt to retain our current staff level. However, as many as 1,200 FTE's would be threatened by reductions of the magnitude under consideration.

Chairman **HATFIELD**. The Continuing Resolution defined in detail what a program project or activity was as it pertained to the Energy and Water Subcommittee.

Has this language hampered your ability to carry out your work in an efficient and effective way, particularly your construction activities? Do you believe this definition is workable or is more flexibility needed? Would you care to recommend alternative language that would provide more flexibility and optimize program execution?

General **HEIBERG**. The language in the Continuing Resolution gave some clarification to what was included for prosecution in the 1986 appropriations and for rational application of reductions. No major problems are expected and greater flexibility is not required.

COST SHARING AND USER FEE LEGISLATION

Chairman **HATFIELD**. Mr. Dawson, your statement indicates that initiation of construction of the navigation projects contained in the 1985 Supplemental Bill is contingent upon "enactment of authorizing legislation consistent with the Administration's and Senate Leadership agreement of last June." Does "consistent with the Administration's and Senate leadership agreement" mean that cost sharing has to be at the Administration's level and nothing else is acceptable?

Mr. **DAWSON**. The Administration moved a long way from its original position in the compromise last summer. It is unrealistic to expect that further reductions in the non-Federal cost share will produce a bill that the Department of the Army can recommend that the President sign.

Chairman **HATFIELD**. Are you familiar with the language in the Committee report indicating that this new approach was needed to move ahead with new projects without further delay?

Mr. **DAWSON**. We are in complete agreement with the Committee's intent to move ahead. Addition of the May 15, 1986 provision will allow us to initiate construction in accord with last summer's agreement except that we will lack the increase in navigation fees which was an important element of that agreement.

Chairman **HATFIELD**. Does Public Law 99-88 authorize the Secretary of the Army to proceed with construction under terms and conditions acceptable to him? Then why is there a necessity to make construction contingent upon enactment of authorizing legislation?

Mr. **DAWSON**. Yes, it does. While it is not required by law to have the new navigation fees enacted, the enactment of those fees was an essential element of the agreement and, in ~~our view, is~~ a condition that must be met before we initiate construction of the navigation projects.

NEED FOR INLAND NAVIGATION IMPROVEMENTS

Chairman HATFIELD. General Heiberg, your statement appears to support the need to go ahead with the inland projects. You indicate that waterborne commerce has been far beyond the projection at the time of construction for the inland system and "preliminary projections indicate inland waterway tonnage in 1985 will be the highest ever recorded." With the commercial and industrial networks already existing, wouldn't the rate of return be greater and benefits be realized much faster? And wouldn't this be true with or without an increase in the fuel tax?

General HEIBERG. Incremental improvements almost always produce benefits faster, whether they are waterway improvements such as replacement locks at Gallipolis and Bonneville, or "debottlenecking" of an industrial process. Immediate return doesn't necessarily produce the greatest return on investment, however, and although private enterprise usually favors incremental investment because of the time value of money, it also builds entirely new plants too. In brief, return is case specific, and the benefits that justify Corps projects do not include considerations such as market share, that are important to private enterprise. Comparatively, this understates waterway benefits, but they are nonetheless real and immediate.

With or without an increase in the fuel tax, there will be no significant change in the amount and timing of the benefits used in waterway project justification. Although the beneficiaries may change, National Economic Development benefits will be relatively unaffected.

Chairman HATFIELD. General, what shape will the Corps' Civil Works programs be in if these projects are not begun in the very near future?

General HEIBERG. Preliminary statistics for 1985 indicate that the Ohio River system did, in fact, handle an all-time record tonnage, but I did not intend to extend that forecast to the entire inland waterways system. The crash of grain exports has affected some waterways and their users very adversely. The point is that the waterway system is large and dynamic, that even in times of adversity there are segments that are growing and need additional capacity, and that over time our identification of needs is realistic. Comparatively, Gallipolis didn't do as well as the rest of the Ohio River in 1985, but the auxiliary lock there was out of service for four months, and it's difficult to separate cause and effect. Demonstrable need shouldn't require crisis, and the authorizations would provide for orderly, timely and more economical lock replacement.

ADVANCE AUTHORITY FOR SEVEN INLAND WATERWAY PROJECTS

Chairman HATFIELD. The Supplemental Appropriations Bill also contained authority and specific direction for the Corps of Engineers to undertake detailed engineering and design and land acquisition at seven high priority inland navigation locks and dams. It also provided authority for necessary relocations at the Bonneville Navigation Lock.

How is the Corps proceeding to carry out the advance authority and direction contained in the Supplemental?

Mr. DAWSON. We are proceeding on schedule and as authorized by the special provisions of Public Law 99-88 for all seven in FY 1986. The FY 1987 budget includes follow-on construction funds for the Oliver, Gallipolis, and Bonneville projects, and engineering and design funds for the Winfield, Grays Landing, Point Marion, and Mississippi River L&D 26 projects.

Chairman HATFIELD. What specific guidance or directions have been given to the Districts on these projects? Be specific by project.

Mr. DAWSON. Specific guidance was provided to Districts in a letter dated September 13, 1985, subject: Interim Policy Guidance for Projects Contained in FY 1985 Supplemental Appropriations Act. As set forth in that letter, the guidance on the four inland waterway projects is as follows:

Div.	*Project title*	*Action*
SAD	William Bacon Oliver L&D, AL	Initiate land acquisition and relocations starting in FY 1986, using Construction, General and Inland Waterway Trust Funds. No Local Cooperation Agreement required.
ORD	Gallipolis Locks and Dam, WV and OH	Initiate land acquisition and relocations starting in FY 1986, using Construction, General and Inland Waterway Trust Funds. No Local Cooperation Agreement required.
LMVD	L&D 26, Alton, IL and MO, 2nd Lock,Excl Env Mgt	Continue preconstruction planning and engineering. Current schedule provides for initiation of construction in FY 1988.
NPD	Bonneville Navigation Lock, OR and WA	Initiate land acquisition and relocations starting in FY 1986, using Construction, General and Inland Waterway Trust Funds. No Local Cooperation Agreement required.

No specific guidance was given on the other three inland waterway projects in the September 13th letter because they are in the precostruction planning phase.

Chairman HATFIELD. Is the Administration prepared to initiate construction of some or all of these projects if the fuel tax is not increased?

Mr. DAWSON. Our intent is to proceed only upon enactment of the fuel tax increase.

INLAND WATERWAYS TRUST FUND

Chairman HATFIELD. What is the current status of the Inland Waterways Trust Fund?

General HEIBERG. As of December 31, 1985, there was $212 million available in the Trust Fund. We estimate that an additional $47 million will be generated from fuel tax receipts and interest on investments during the remainder of fiscal year 1986. These revenues combined with projected outlays of $7.8 million appropriated in the 1985 Supplemental will provide an estimated balance of $251 million at the end of fiscal year 1986.

Chairman HATFIELD. What is the total estimated cost of the 7 inland navigation projects included in the Supplemental? What is the estimated Federal and non-Federal share?

General HEIBERG. The total estimated cost of the 7 inland navigation projects, including inflation during construction, is $1.386 billion. The estimated Federal share is $697 million and the non-Federal share is $689 million.

Chairman HATFIELD. If you assume no change in the current level of user fees, would sufficient funds be available in the Trust Fund to cover the non-Federal share of construction of the initial 4 and ultimately the 7 inland navigation projects included in the Supplemental? If not, please explain why.

General HEIBERG. Yes, sir, there would be sufficient funds available in the Trust Fund to cover the estimated $689 million non-Federal share for the 7 inland navigation projects.

Chairman HATFIELD. How much additional revenue will be produced by the proposed fuel tax increase?

General HEIBERG. During the ten year period from 1988–1997 when the proposed fuel tax rate increases one cent per gallon annually, an estimated additional revenue of $330 million will be generated.

Chairman HATFIELD. Under existing legislation, would the Trust Fund ever go into a deficit condition with initiation of construction of the 4 initial projects assuming 50 percent from the Trust Fund and a normal construction schedule? How about the 7 projects?

General HEIBERG. Sir, we project that there will be sufficient funds in the Trust Fund to cover the non-Federal share for all 7 projects.

Chairman HATFIELD. Provide for the record, a table which shows, by year thru 2000, the total level of appropriations available in the Trust Fund under existing law along with the interest component, and the annual incremental increase in receipts and interest component expected under the proposed new legislation increasing the fuel tax.

General HEIBERG. The projections of annual outlays are based on current project schedules which also are provided. The estimated annual growth rate which serves as the basis for projected fuel tax receipts may be optimistic, given recent trends in commodity movements.

[The information follows:]

ANALYSIS OF INLAND WATERWAYS TRUST FUND (FY1986-FY2000)

	EXISTING TAX RATES					PROPOSED TAX RATES				
Fiscal Year	Trust Fund Beginning Balance ($Mil)	Fuel Tax Receipts ($Mil)	Interest On Investment ($Mil)	Outlays ($Mil)	Trust Fund Ending Balance ($Mil)	Trust Fund Beginning Balance ($Mil)	Fuel Tax Receipts ($Mil)	Interest On Investment ($Mil)	Outlays ($Mil)	Trust Fund Ending Balance ($Mil)
1986	192.4	50.4	15.6	7.8	250.6	192.4	50.4	15.6	7.8	250.6
1987	250.6	51.5	17.9	26.0	294.0	250.6	51.5	17.9	26.0	294.0
1988	294.0	52.6	17.1	50.8	312.9	294.0	57.9	17.3	50.8	318.4
1989	312.9	53.8	14.5	100.1	281.1	318.4	64.6	15.0	100.1	297.8
1990	281.1	54.9	10.4	133.6	212.8	297.8	71.4	11.5	133.6	247.1
1991	212.8	56.2	7.1	126.0	150.1	247.1	78.7	8.9	126.0	208.7
1992	150.1	57.4	6.4	39.0	174.9	208.7	86.1	9.3	39.0	265.1
1993	174.9	58.7	7.0	60.0	180.6	265.1	93.9	11.3	60.0	310.3
1994	180.6	59.9	7.2	63.2	184.5	310.3	101.8	13.2	63.2	362.1
1995	184.5	61.3	7.6	52.3	201.1	362.1	110.3	15.6	52.3	435.8
1996	201.1	62.7	8.8	24.9	247.7	435.8	119.1	19.3	24.9	549.3
1997	247.7	64.0	11.1	5.2	317.6	549.3	128.0	24.4	5.2	696.5
1998	317.6	65.4	14.0	0.0	397.0	696.5	130.8	30.5	0.0	857.8
1999	397.0	66.9	17.2	0.0	481.1	857.8	133.8	37.0	0.0	1028.6
2000	481.1	68.4	20.6	0.0	570.1	1028.6	136.8	43.9	0.0	1209.3

Notes:

1. Fuel tax receipts are based on 10 cents per gallon (cpg) for the 15-year period under existing law and the following tax rates proposed in S.1567: 10 cpg - FY86 and FY87, 11 cpg - CY88, 12 cpg - CY89, 13 cpg - CY90, 14 cpg - CY91, 15 cpg - CY92, 16 cpg - CY93, 17 cpg - CY94, 18 cpg - CY95, 19 cpg - CY96, 20 cpg - CY97 and beyond.

2. Outlays are based on estimated non-Federal share of costs for the following seven projects contained in the FY85 Supplemental Appropriations: Bonneville Nav. Lock, OR & WA; Gallipolis L&D, WV & OH; L&D 26, 2nd Lock, IL & MO; W.B. Oliver L&D Replace., AL; Grays Landing, L&D 7, PA; Point Marion, L&D, PA; and Winfield L&D, WV.

3. The estimated annual growth rate of commercial transportation on the inland waterways is 2.2% for the 15-year period.

4. Rates used to estimate interest on investments are derived from the economic assumptions contained in the FY87 budget.

INLAND WATERWAYS TRUST FUND (FY1986-FY2000) - EXISTING TAX RATE

FY	Trust Fund Beginning Balance ($Mil)	Fuel Tax (Cents per Gallon)	Gallons of Fuel at 2.2% Annual Growth Rate (Mil)	Fuel Tax Receipts ($Mil)	Economic Forecast of Interest Rates	Interest On Investment ($Mil)	Total Income ($Mil)	Outlays ($Mil)	Trust Fund Ending Balance ($Mil)
86	192.4	10.0	504.0	50.4	7.30%	15.6	66.0	7.8	250.6
87	250.6	10.0	515.0	51.5	6.80%	17.9	69.4	26.0	294.0
88	294.0	10.0	526.0	52.6	5.80%	17.1	69.7	50.8	312.9
89	312.9	10.0	538.0	53.8	5.00%	14.5	68.3	100.1	281.1
90	281.1	10.0	549.0	54.9	4.30%	10.4	65.3	133.6	212.8
91	212.8	10.0	562.0	56.2	4.00%	7.1	63.3	126.0	150.1
92	150.1	10.0	574.0	57.4	4.00%	6.4	63.8	39.0	174.9
93	174.9	10.0	587.0	58.7	4.00%	7.0	65.7	60.0	180.6
94	180.6	10.0	599.0	59.9	4.00%	7.2	67.1	63.2	184.5
95	184.5	10.0	613.0	61.3	4.00%	7.6	68.9	52.3	201.1
96	201.1	10.0	627.0	62.7	4.00%	8.8	71.5	24.9	247.7
97	247.7	10.0	640.0	64.0	4.00%	11.1	75.1	5.2	317.6
98	317.6	10.0	654.0	65.4	4.00%	14.0	79.4	0.0	397.0
99	397.0	10.0	669.0	66.9	4.00%	17.2	84.1	0.0	481.1
0	481.1	10.0	684.0	68.4	4.00%	20.6	89.0	0.0	570.1

INLAND WATERWAYS TRUST FUND (FY1986-FY2000) - PROPOSED TAX RATES

Ed Vogel
DAEN-CWB-S
[IWWTF2]

FY	Trust Fund Beginning Balance ($Mil)	Fuel Tax (Cents per Gallon)	Gallons of Fuel at 2.2% Annual Growth Rate (Mil)	Fuel Tax Receipts ($Mil)	Economic Forecast of Interest Rates	Interest On Investment ($Mil)	Total Income ($Mil)	Outlays ($Mil)	Trust Fund Ending Balance ($Mil)
86	192.4	10.0	504.0	50.4	7.30%	15.6	66.0	7.8	250.6
87	250.6	10.0	515.0	51.5	6.80%	17.9	69.4	26.0	294.0
88	294.0	11.0	526.0	57.9	5.80%	17.3	75.1	50.8	318.3
89	318.3	12.0	538.0	64.6	5.00%	15.0	79.6	100.1	297.8
90	297.8	13.0	549.0	71.4	4.30%	11.5	82.8	133.6	247.1
91	247.1	14.0	562.0	78.7	4.00%	8.9	87.6	126.0	208.7
92	208.7	15.0	574.0	86.1	4.00%	9.3	95.4	39.0	265.1
93	265.1	16.0	587.0	93.9	4.00%	11.3	105.2	60.0	310.3
94	310.3	17.0	599.0	101.8	4.00%	13.2	115.0	63.2	362.1
95	362.1	18.0	613.0	110.3	4.00%	15.6	126.0	52.3	435.8
96	435.8	19.0	627.0	119.1	4.00%	19.3	138.4	24.9	549.3
97	549.3	20.0	640.0	128.0	4.00%	24.4	152.4	5.2	696.5
98	696.5	20.0	654.0	130.8	4.00%	30.5	161.3	0.0	857.8
99	857.8	20.0	669.0	133.8	4.00%	37.0	170.8	0.0	1028.6
0	1028.6	20.0	684.0	136.8	4.00%	43.9	180.7	0.0	1209.3

CORPS OF ENGINEERS INLAND WATERWAYS PROJECTS TO BE FUNDED FROM THE INLAND WATERWAYS TRUST FUND (Dollars in Thousands)

PROJECT	SOURCE	THRU FY85	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	TOTALS
BONNEVILLE NAV. LOCK, OR & WA	FED	154	3,846	10,000	23,500	15,000	23,500	24,000	1,500	0	0	0	0	0	0	0	0	101,500
	IWTF	0	4,000	10,000	23,500	15,000	23,500	24,000	1,500	0	0	0	0	0	0	0	0	101,500
	TOTAL	154	7,846	20,000	47,000	30,000	47,000	48,000	3,000	0	0	0	0	0	0	0	0	203,000
GALLIPOLIS L&D, WV & OH	FED	95	2,853	3,500	4,000	23,500	48,000	48,000	20,000	15,000	9,302	2,250	0	0	0	0	0	176,500
	IWTF	0	1,552	3,500	4,000	23,500	48,000	48,000	20,000	15,000	10,698	2,250	0	0	0	0	0	176,500
	TOTAL	95	4,405	7,000	8,000	47,000	96,000	96,000	40,000	30,000	20,000	4,500	0	0	0	0	0	353,000
L&D 26, 2ND LOCK, IL & MO	FED	115	3,170	2,000	10,000	43,000	44,000	37,715	0	0	0	0	0	0	0	0	0	140,000
	IWTF	0	715	2,000	10,000	43,000	44,000	40,285	0	0	0	0	0	0	0	0	0	140,000
	TOTAL	115	3,885	4,000	20,000	86,000	88,000	78,000	0	0	0	0	0	0	0	0	0	280,000
W.B. OLIVER L&D REPLACE., AL	FED	1,002	3,065	10,500	9,733	17,000	16,500	7,200	0	0	0	0	0	0	0	0	0	65,000
	IWTF	0	1,533	10,500	12,267	17,000	16,500	7,200	0	0	0	0	0	0	0	0	0	65,000
	TOTAL	1,002	4,598	21,000	22,000	34,000	33,000	14,400	0	0	0	0	0	0	0	0	0	130,000
GRAYS LANDING, L&D #7, PA	FED	0	640	670	750	900	600	1,500	5,000	15,000	20,000	20,000	7,500	3,095	0	0	0	75,655
	IWTF	0	0	0	750	900	600	1,500	5,000	15,000	20,000	20,000	7,500	3,095	0	0	0	74,345
	TOTAL	0	640	670	1,500	1,800	1,200	3,000	10,000	30,000	40,000	40,000	15,000	6,190	0	0	0	150,000
POINT MARION, L&D #8, PA	FED	0	660	730	250	700	1,000	5,000	7,500	15,000	12,500	5,000	2,355	0	0	0	0	50,695
	IWTF	0	0	0	250	700	1,000	5,000	7,500	15,000	12,500	5,000	2,355	0	0	0	0	49,305
	TOTAL	0	660	730	500	1,400	2,000	10,000	15,000	30,000	25,000	10,000	4,710	0	0	0	0	100,000
WINFIELD L&D, WV	FED	0	0	1,750	1,750	1,000	600	600	5,000	15,000	20,000	25,000	15,000	2,150	0	0	0	87,850
	IWTF	0	0	0	0	0	0	0	5,000	15,000	20,000	25,000	15,000	2,150	0	0	0	82,150
	TOTAL	0	0	1,750	1,750	1,000	600	600	10,000	30,000	40,000	50,000	30,000	4,300	0	0	0	170,000
GRAND TOTAL	FED	1,366	14,234	29,150	49,983	101,100	134,200	124,015	39,000	60,000	61,802	52,250	24,855	5,245	0	0	0	697,200
	IWTF	0	7,800	26,000	50,767	100,100	133,600	125,985	39,000	60,000	63,198	52,250	24,855	5,245	0	0	0	688,800
	TOTAL	1,366	22,034	55,150	100,750	201,200	267,800	250,000	78,000	120,000	125,000	104,500	49,710	10,490	0	0	0	1,386,000

CONTRACTUAL NEGOTIATIONS—FISCAL YEAR 1985 NEW STARTS

Chairman HATFIELD. Update the Committee on the Corps activities and progress related to negotiation of binding cost sharing agreements with non-Federal interests as provided in the 1985 Supplemental. Have non-Federal interests been eager to come forward and sign formal binding contracts?

Mr. DAWSON. One sponsor has signed an agreement; this was a standard 221 agreement which was previously executed under traditional cost-sharing.

It is very likely that Local Cooperation Agreements on an additional 12 projects will be signed by June 30, 1986. Of the remaining projects, 6 do not require Local Cooperation Agreements, 9 are likely to have a Local Cooperation Agreement signed by June 30, 1986, 10 are possible, and 4 do not appear likely. I have a table summarizing the current status of these projects that I would like to provide for the record.

[The information follows:]

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS -
CIVIL WORKS
FY 1985 SUPPLEMENTAL (P.L. 99-88) NEW START CONSTRUCTION PROJECTS
STATUS

STATE	PROJECT	PRIMARY PROJECT OUTPUT	OUTLOOK FOR SIGNING OF AGREEMENT BY 30 JUN 86 (FLCA)	SCOPE OF PROJECT
AL	MOBILE HARBOR	Commercial Navigation (Deep Draft)	Very Likely	Phased construction: Scheduled 57 foot entrance channel, 55 foot Bay Channel and 40 foot McDuffie Island Turning Basin. Transshipment Facility (constructed by sponsor). Remainder of project unscheduled.
		Remarks -	Non-Federal portion will be financed by revenues from dock operations, oil-lease funds, industrial development bonds, and state appropriated funds. Construction period to be phased to be phased to match Alabama State Docks requirements. Incremental maintenance dredging cost sharing must be determined.	
AL	WILLIAM BACON OLIVER L&D	Inland Navigation	Not Required	28' Lift, 110' x 600' Lock; remove old lock.
		Remarks -	50% of funds from Inland Waterways Trust Fund. 50% of funds from Construction, General.	
AR	EIGHT MILE CREEK	Flood Control	Not likely	Would be based on reduced scope project (only upstream urban reach is scheduled; downstream agricultural area unscheduled).
		Remarks -	Extent of local participation is currently under discussion.	
CA	FAIRFIELD VICINITY STREAMS	Flood Control	Very Likely	Channel improvements and diversions, recreation facilities.
		Remarks -	Value of completed work by local sponsor must be determined.	

STATE	PROJECT	PRIMARY PROJECT OUTPUT	OUTLOOK FOR SIGNING OF AGREEMENT BY 30 JUN 86 (FLCA)	SCOPE OF PROJECT
CA	MERCED COUNTY STREAMS	Flood Control	Possible	Reservoir construction, channel work, fish and wildlife mitigation.
		Remarks - Project has both major reservoir and local protection outputs. Local sponsor financing requirements are an issue. State legislative relief on cash contribution may be needed.		
CA	RICHMOND HARBOR	Commercial Navigation (Deep Harbor)	Possible	Deepen Entrance Channel, Potrero Reach Channel, and Inner Harbor Channel to 41 feet; 41 foot deep by 1,425 foot Turning Basin at Ford Channel.
		Remarks - General Design Memo on tight schedule. Local sponsor considering bonds as a source of funding.		
CA	SACRAMENTO DEEPWATER SHIP CHANNEL	Commercial Navigation (Deep Harbor)	Possible	Deepen existing channel from 30 to 35 feet from Collinsville to Port of Sacramento; widen channel 250 to 350 feet as necessary; fish and wildlife mitigation. Recreation unscheduled.
		Remarks - Construction schedule may be extended to meet local sponsor financial arrangements.		
FL	DADE COUNTY, N. OF HAULOVER BEACH PARK	Recreation and Flood Control	Very Likely	Initial fill scheduled. Periodic nourishment unscheduled.
		Remarks - No significant issues.		
FL	TAMPA HARBOR BRANCH CHANNELS, INCL EAST BAY CHNL MAINT.	Commercial Navigation (Deep Harbor)	Very Likely	Hillsborough Bay, Ybor and Sparkman Channels scheduled.
		Remarks - Unresolved issue is the maintenance responsibility of East Bay Channel. Economic feasibility of Port Tampa channels must be determined.		

STATE	PROJECT	PRIMARY PROJECT OUTPUT	OUTLOOK FOR SIGNING OF AGREEMENT BY 30 JUN 86 (FLCA)	SCOPE OF PROJECT
GA	SAVANNAH HARBOR WIDENING	Commercial Navigation (Deep Harbor)	Very Likely	Widen channel from 400 to 500 feet (between Fig Island and Kings Island).
		Remarks -	Bond issue required in FY 1987. Channel widening will be cost shared 25% non-Federal, 75% Federal.	
HI	KAHOMA STREAM	Flood Control	Very Likely	Channel improvement, debris basin, rubble apron.
		Remarks -	Maui County must sell $3 million in bonds.	
IA	DES MOINES RECREATIONAL RIVER AND GREENBELT	Recreation and Env. Quality Enhance	Not Likely	Recreation sites, fish and wildlife enhancement, bank stabilization.
		Remarks -	Scope of project has not been defined. No sponsor identified to date.	
IL, MO	L&D 26, ALTON, IL&MO 2ND LOCK, EXCL ENV MGMT	Inland Navigation	Not required	600' x 110' Lock.
		Remarks -	50% of funds from Inland Waterways Trust Fund. 50% of funds from Construction, General.	
LA	ATCHAFALAYA BASIN FLOODWAY	Flood Control	Not Required	Flood control (acquisition of flowage easements) is scheduled. Recreation and fish & wildlife enhancement are unscheduled.
		Remarks -	Scheduled flood control portion is 100% Federal responsibility.	
LA	MISSISSIPPI RIVER SHIP CHANNEL	Commercial Navigation (Deep Draft)	Very Likely	Phased construction. Scheduled 50 foot deep draft channel to river mile 181. Remainder of project unscheduled.
		Remarks -	Designated sponsor is the Louisiana Dept. of Commerce. Bond issue required. Saltwater intrusion mitigation necessitated by construction of general navigation project. Federal Government would share in the operation & maintenance of the mitigation works. Incremental maintenance dredging cost sharing must be determined.	

STATE	PROJECT	PRIMARY PROJECT OUTPUT	OUTLOOK FOR SIGNING OF AGREEMENT BY 30 JUN 86 (FLCA)	SCOPE OF PROJECT
LA	PEARL RIVER, SLIDELL, ST. TAMMANY PARISH	Flood Control	Possible	Levees, floodgates, pumping plants.
		Remarks -	Currently scheduled for Board of Engineers for Rivers and Harbors (BERH) review on 5 March 86. Negotiations to consider issues raised during review.	
MD & VA	BALTIMORE HARBORS AND CHANNELS	Commercial Navigation (Deep Draft)	Very Likely	Phased construction: 50 foot channel, reduced channel widths. Remaining phase (widening to authorized dimensions) unscheduled.
		Remarks -	Unresolved issue--credit for disposal at Hart-Miller Island for O&M and total amount to be credited in calculating percent to be paid back over time. Incremental maintenance dredging cost sharing must be determined.	
ME	JONESPORT HARBOR	Commercial Navigation (Shallow Draft)	Likely	Breakwater, entrance channel, anchorage area.
		Remarks -	Possible problem on timing of availability of sponsor's funds. Portion of funding would be subject to state-wide referendum scheduled for November 86. Initiation of construction is contingent upon passage of referendum.	
MN	BASSETT CREEK	Flood Control	Likely	Channel improvement, tunnels, flood control structures.
		Remarks -	Prior work performed by sponsors. Only work directly related to implementation of the authorized project is eligible for credit. Subarrangements among local sponsors would have to be in place prior to execution of agreement with lead sponsor.	
MN, WI, IL, IA, MO	ENV MGMT, L&D26, ALTON, IL&MO, 2nd LOCK	Recreation and Env. Quality Enhance.	Possible	Scheduled sites: Blackhawk, Monkey Chute, Wilcox Camp, Island No. 42, Guttenberg, Kaskaskia Chute, Cape Girardeau; remainder unscheduled.
		Remarks -	Anticipate a range of small projects over a 10-year period. States have funds and are ready to cost share. Project involves recreation and environmental quality enhancement activities to be cost shared by output.	

STATE	PROJECT	PRIMARY PROJECT OUTPUT	OUTLOOK FOR SIGNING OF AGREEMENT BY 30 JUN 86 (FLCA)	SCOPE OF PROJECT
MS	GULFPORT HARBOR	Commercial Navigation (Deep Harbor)	Not Likely	Project scope not yet determined; AE&D initiated in FY 86.
		Remarks - Unresolved major issue--method of dredged material disposal. Non-Federal funding not yet arranged. Expect to maintain orderly design process. Construction not scheduled pending completion of design.		
NE, SD	MISSOURI NATIONAL REC RIVER	Streambank Erosion & Recreation	Possible	Undetermined.
		Remarks - Scope of work must be determined. No sponsor identified to date.		
NJ	BARNEGAT INLET	Navigation, Recreation, Commercial	Likely	Jetty, channel dredging.
		Remarks - No significant issues remain.		
NJ	LIBERTY STATE PARK LEVEE AND SEAWALL	Recreation and Urban Renewal		LikelyLevees and walkways.
		Remarks - Project based on 50/50 cost sharing of construction and assumption by sponsor of O&M activities.		
NY	ARDSLEY LOCAL PROTECTION	Flood Control	Likely	Levees, floodwall, concrete flume, channel work. Project to be constructed may be somewhat smaller than authorized due to changes at downstream end.
		Remarks - LCA must be reviewed by NY State Attorney General's office prior to signature by State Department of Environmental Conservation.		
NY	MORICHES INLET	Recreation, Commercial Navigation	Possible	Jetty, channel dredging.
		Remarks - Actual project construction contingent upon State Department of Environmental Conservation accepting O&M cost sharing responsibility. 50/50 construction cost sharing agreeable to sponsor.		

STATE	PROJECT	PRIMARY PROJECT OUTPUT	OUTLOOK FOR SIGNING OF AGREEMENT BY 30 JUN 86 (FLCA)	SCOPE OF PROJECT
NY	ELLICOTT CREEK	Flood Control	See Remarks	Channelization and diversion channel works.
		Remarks -	Standard 221 Agreement previously executed by District Engineer and sponsor. If cost-sharing legislation is enacted a new LCA with cost sharing may have to be executed.	
NY	PORT ONTARIO HARBOR	Recreation, Commercial Navigation	Likely	Breakwaters, entrance channel, inner channel.
		Remarks -	Mixed outputs: 65% - recreation navigation, 35% - commercial navigation. New York State Office of Parks, Recreation and Historic Preservation has legal authority to execute agreement, however, financing arrangements must be determined.	
NY, NJ	KILL VAN KULL, NEWARK BAY CHAN.	Commercial Navigation (Deep Harbor)	Very Likely	Phased construction: Deepen to 40 feet. Deepening to 44 feet is unscheduled based on local needs.
		Remarks -	The draft agreement will be addressed by the Board of Commissioners of the Port Authority of New York and New Jersey at its April meeting. Final agreement to be signed by the respective Governors.	
OH	CLEVELAND HARBOR	Commercial Navigation (Deep Harbor)	Possible	Commercial navigation portion scheduled. Recreation (Pier 34) unscheduled.
		Remarks -	Developing draft agreement for commercial navigation portion only. Dredged material disposal is an unresolved issue.	
OH	GENEVA-ON-THE-LAKE	Recreation	Very Likely	Breakwater, entrance channel, service channels, mooring area, recreation fishing facility, wetland mitigation.
		Remarks -	Bond issue scheduled for March 86 ($7 million); sponsor has $1 million currently available. Sponsor concerned about future maintenance expenses.	

STATE	PROJECT	PRIMARY PROJECT OUTPUT	OUTLOOK FOR SIGNING OF AGREEMENT BY 30 JUN 86 (FLCA)	SCOPE OF PROJECT
OK	PARKER LAKE	Water Supply	Not Likely	Unscheduled.
		Remarks -	Project unscheduled because it is predominantly single purpose water supply, a non-Federal responsibility.	
OR, WA	BONNEVILLE NAVIGATION LOCK	Inland Navigation	Not Required	86' x 675' Lock.
		Remarks -	50% of funds from Inland Waterways Trust Fund. 50% of funds from Construction, General.	
PA	COWANESQUE LAKE MOD	Flood Control & Water Supply	See Remarks	Dam modifications, reservoir slope stabilization, recreation.
		Remarks -	Separate contracts on recreation and water supply are being negotiated. Unresolved issue—proper amount of existing project costs to be borne by water supply sponsor. To ensure full implementation, sponsor requests Federal Government to execute both contracts concurrently.	
TX	CLEAR CREEK	Flood Control	Likely	Channels and outlet structure.
		Remarks -	There are three local sponsors; however, Brazoria Co. may withdraw which would truncate project at Brazoria Co. line. The Corps is seeking a binding agreement with primary sponsor, Harris County. $25M bond issue approved. $15M bond issue not approved.	
TX	COLO RIVER AND TRIBS. BOGGY CREEK AT AUSTIN	Flood Control	Possible	See Remarks.
		Remarks -	Question on whether the project is NED Plan (10-year protection) or 100-year protection. Local sponsor has acquired lands and performed bridge relocation work prior to PL 99-88 enactment. Local sponsor has bond sold; however, more bonds needed.	

STATE	PROJECT	PRIMARY PROJECT OUTPUT	OUTLOOK FOR SIGNING OF AGREEMENT BY 30 JUN 86 (FLCA)	SCOPE OF PROJECT
TX	FREEPORT HARBOR (1970 ACT)	Commercial Navigation (Deep Harbor)	Very Likely	North Jetty relocation, South Jetty rehab, channel and turning basin dredging/widening, recreation area, Coast Guard Station relocation.
		Remarks - Bonds have been approved and sold; local sponsor's funds are available.		
UT	LITTLE DELL LAKE	Flood Control, Water Supply	Likely	See Remarks.
		Remarks - Local sponsor desires reduced scope project to meet needs. Recreation unscheduled. The two local sponsors, one for water supply, one for flood control want to jointly sign one LCA.		
VA	NORFOLK HARBOR	Commercial Navigation (Deep Draft)	Very Likely	Phased construction: 50 foot outbound channel deepening, remainder unscheduled.
		Remarks - Sponsor desires reduced scope project (reduced channel widths and outbound lane). Final agreement to be executed by Port Director, approved by Governor and Attorney General.		
VA	RICHMOND LOCAL PROTECTION	Flood Control	Likely	Levees, floodwalls, pumping stations.
		Remarks - Local sponsor wants project expedited; area suffered severe damages in October 1985 flood. Sponsor expresses desire to contract with Corps for relocations at local expense.		
VA	VIRGINIA BEACH STREAMS, CANAL NO. 2	Flood Control	Very Likely	New canal and channelization of existing channel to carry 100-yr flood.
		Remarks - Nearly all lands required are already held by sponsor. Sponsor may make payments by periodic installment.		
WV, OH	GALLIPOLIS LOCKS & DAM	Inland Navigation	Not Required	Main Lock 110' x 1200'. Auxiliary Lock 110' x 600'. Existing dam rehabilitation.
		Remarks - Land acquisition proceeding. 50% funds from Inland Waterways Trust Fund. 50% of funds from Construction, General.		

PROGRESS ON FISCAL YEAR 1985 NEW STARTS

Chairman HATFIELD. Have you or anyone else placed any constraints or other special condition on the negotiation process other than those required by P.L. 99-88, the 1985 Supplemental Bill?

Mr. DAWSON. No, sir. We have endeavored to move the negotiation with local sponsors as fast as possible consistent with the requirements of P.L. 99-88 and cost-sharing formulae agreed to in S. 1567. We are processing the draft agreements with concurrent reviews to streamline the handling of the agreements. Further, we have been working closely with the Corps of Engineers negotiating elements with the purpose of assuring consistent and timely agreements.

Chairman HATFIELD. Do you plan to proceed with construction of the 41 projects in the Supplemental if an Omnibus Authorization Bill is not enacted by May 15th?

Mr. DAWSON. We intend to move to construction those projects that have signed local cooperation agreements with the exception of the inland navigation and commercial navigation projects. The inland navigation projects do not require agreements since 50 percent will be funded from the Inland Waterways Trust Fund and 50 percent from the Construction, General, appropriation. However, those projects will not go forward to construction without the legislated increase in the fuel tax levy that is designed to fund the trust fund. Further, commercial navigation projects will not move forward without the passage of ad valorem tax legislation to fund the Harbor Maintenance Trust Fund.

Chairman HATFIELD. How many of the 41 projects included in the 1985 Supplemental are now or will be at the point that the formal cost sharing contracts can be executed on or shortly after May 15, 1986? Have schedules been established which would insure binding contracts for these projects are in hand between May 15, 1986 and June 30, 1986, the date that funds contained in the Supplemental for an individual project would no longer be available. If not, explain why.

Mr. DAWSON. We expect to have signed local cooperation agreements on 13 projects prior to June 30, 1986. Milestone schedules for the approval of local cooperation agreements have been established for all but one project. These schedules consider the technical data requirements, funding requirements and local cooperation agreement review requirements that are needed to advertise and award the initial construction contract. Parker Lake does not have a milestone schedule since it has been determined that this project is primarily a water supply project and should be funded by non-Federal interests.

FISCAL YEAR 1987 PROPOSED NEW CONSTRUCTION STARTS

Chairman HATFIELD. The Budget proposes an additional 19 projects be initiated in 1987. Why is it necessary to initiate 19 additional projects in 1987?

Mr. DAWSON. Funds for the 19 new starts were included in the budget in order to respond to demands of users for the outputs that they produce. All are sound investments as is illustrated by the fact that non-Federals will fund over one-third (37 percent) of the total costs. The significant non-Federal contribution has permitted us to budget those projects within our multi-year program ceilings.

Chairman HATFIELD. Are these 19 projects being handled the same way and under the same conditions as the 41 approved in the Supplemental?

Mr. DAWSON. Yes. We are applying the same cost sharing and financing criteria being applied to the FY 1985 new construction starts.

Chairman HATFIELD. Are formal, binding cost sharing agreements in hand on these 19 projects?

Mr. DAWSON. No, they are not. We only have sought and received Letters of Assurances which confirm the sponsors' willingness to participate in project construction under the proposed cost sharing and financial arrangements. If the Congress funds the 19 new starts, we will proceed quickly to obtain the required definitive and binding cost sharing and financial agreements.

Chairman HATFIELD. Does Administration's insistence that contractual agreements must be the same for all projects still allow for creative and innovative approaches to financing by non-Federal sponsors?

Mr. DAWSON. We are trying to maintain consistency in cost sharing and financing agreements in order to be fair and to avoid any charges of favoritism. We are open and will work with the sponsors in developing an acceptable approach to the joint financing of the project.

MOBILIZATION AND PLANNING

Chairman HATFIELD. Over the past several years, the Corps has been spending around $7.0 million annually to "think through the process of mobilization or national crisis and produce plans and procedures" to provide the Corps with the capability to respond. Are you producing new plans each year or are existing plans being updated? Why does it cost so much to "think," study, and basically push paper year after year?

General HEIBERG. Mr. Chairman, the National Emergency Preparedness Program, NEPP, is a continuing and an evolving program whose aim is to ensure that the Corps of Engineers can respond to the needs of the Nation in a national security emergency, mobilization or other national crisis requiring our engineering and construction management expertise. Requirements for Corps assistance are projected across the country for a full range of emergencies. The NEPP involves more than just plans. It involves identification of missions, preparation of policies and procedures, training of personnel, testing of operational plans, and providing support programs required to ensure effective and rapid response. Training and exercise participation is cyclical in nature and part of a continuing effort to maintain minimal readiness standards. As part of this process, shortfalls or deficiencies in the ability to execute our plans have been confirmed and quantified which requires our attention to accomplish corrective actions. Concurrently, with these readiness improvement efforts, the Corps is assigned the Emergency Water Planning mission for the Federal government. Major initiatives to improve readiness conditions in this area remain to be accomplished and they will require significant funding support in the future.

As deficiencies in both NEPP and Emergency Water Planning are corrected, funding levels are expected to decrease. However, at the same time, actions necessary to maintain progress attained in planning, facilities improvements, equipment upgrades, training and testing will remain and will continue to be critical to a viable response capability.

Chairman HATFIELD. Have you explored ways to reduce the funding requirement for mobilization and continuity of government preparedness?

General HEIBERG. Yes, Mr. Chairman, we are continually reviewing our programs to ensure that actions taken are necessary to a viable response capability; that equipment and facilities are the minimum required to be fully responsive; and that ongoing readiness improvement efforts are fully coordinated with other programs and agencies to minimize duplication and maximize benefits. We have reduced long-term training costs by developing exportable packages that are useable for inhouse training which minimizes travel, per diem, and time away from the job. At the same time, we are reviewing our current mobilization exercise program to determine ways to modify future exercise participation to maximize benefits while reducing manpower and funding requirements. With respect to facilities, equipment and communications, we primarily utilize existing resources to meet requirements. However, where requirements cannot be met with existing resources, we seek appropriate military or civil funds to meet the needs.

EMERGENCY RELOCATION SITES

Chairman HATFIELD. Briefly, what is the purpose of and the plan for providing emergency relocation sites for Corps of Engineers activities?

General HEIBERG. Mr. Chairman, let me preface my response concerning emergency relocation sites, and Corps of Engineers plans for continuity of operations and continuity of government, with the caution that many details of these plans impact on national security and are therefore classified in nature. I will couch my response in general terms to avoid areas which are sensitive. The purpose of an emergency relocation site, ERS, is to provide a relatively safe facility outside of high risk areas where a Corps of Engineers field operating activity, FOA, can carry out its predefined trans- and post-nuclear attack missions. This ensures continuity of government and continuity of operations, COOP, during a Condition Bravo scenario—nuclear attack with warning. Executive Order 11490 directs that ERS be developed to ensure accomplishment of essential Federal missions and functions, and DOD Directive 3020.26, dated 24 October 1985, provides guidance on COOP. The plan is for the Corps headquarters and each FOA to evaluate its requirements, develop, equip and maintain an austere ERS to reduce vulnerability and better assure national and regional performance of the Corps of Engineers' missions, including Civil Works activities.

Chairman HATFIELD. How many sites are planned and who will man them (provide a general list which shows the title of those who are included and whether civilian or military)?

General HEIBERG. ERS are being considered for the Corps headquarters, 12 divisions, 36 districts and 4 laboratories. Specific staffing of the ERS will vary with each FOA and will be the minimum necessary to maintain command and control, undertake essential emergency operations and provide a core of key personnel with which to reconstitute the organization in the post-attack, recovery time frame. It is expected that the ERS staff will be civilians except for the commander and/or his deputy.

Chairman HATFIELD. How many ERS does the Corps currently maintain?

General HEIBERG. The Corps currently maintains 44 ERS. Those facilities are in various degrees of development.

Chairman HATFIELD. Will each Division and District be required to maintain an ERS? What thought has been given to consolidating a Division with a District, or 1 or more District sites?

General HEIBERG. In an overall analysis, we determined that each division and district has essential trans- and post-attack missions that require them to have the ability to operate in this environment. We have and continue to evaluate any alternatives that would allow consolidating resources. However, this alternative has not been feasible for the initial high priority ERS sites. As the program continues, we will evaluate any such alternatives that are identified and implement those that are feasible. Many of these analyses remain to be accomplished as part of the detailed planning by each activity.

Chairman HATFIELD. Why are separate Division sites required?

General HEIBERG. Division ERS are required to maintain vital command and control between HQUSACE and its districts. Current planning guidance is to collocate division ERS where feasible with district ERS, for example, the Lower Mississippi Valley Division and Vicksburg District.

Chairman HATFIELD. Has the Corps performed an analysis to determine if it was an acceptable risk to leave an operating element at its current location?

General HEIBERG. An analysis has been performed which indicates all FOA headquarters are exposed to a certain degree of risk at their current location. Each FOA will be required to develop a comparative cost analysis to determine if it would be more cost effective to relocate or to upgrade locally available facilities to provde the minimal necessary protection to ensure survivability.

Chairman HATFIELD. What standard or guideline has been developed to ensure that existing government facilities are used to the extent possible? What are the guidelines regarding the purchase or development of new facilities?

General HEIBERG. Annex B, ERS Planning and Operating Guidelines, to Regulation ER 500-1-18, Corps of Engineers Continuity of Operations Planning System, CECOPS, is being completed and is scheduled for publication in April 1986. Annex B provides that facilities for use as an ERS will be evaluated in the following order: existing Corps controlled, Department of Army controlled, Department of Defense controlled, other Federal agencies, and finally non-Federal facilities or new construction. However, the final decision on a specific facility to be upgraded is based on a number of factors including vulnerability, physical characteristics and costs.

Chairman HATFIELD. Have guidelines been developed to ensure an "austere environment" is maintained Corps-wide? Has a regulation been developed which standardizes space requirements?

General HEIBERG. Annex B to Corps of Engineers Regulation ER 500-1-18 provides guidance on space and support capabilities required to allow the ERS staff to accomplish their missions. These support capabilities are to be the minimum necessary.

Chairman HATFIELD. Is it standard procedure governmentwide to provide for the location of dependents in the immediate vicinity of the ERS? Is there any Federal cost associated with this provision?

General HEIBERG. Dependents are primarily the responsibility of each individual assigned to the ERS with assistance in making arrangements furnished by each Field Operating Agency. To the extent feasible, provisions for movement and care of dependents in the general area of the ERS should be coordinated with local and state civil defense. Plans for relocation of dependents vary with each agency. There are no Federal costs incurred with respect to relocation of Corps personnel and in most cases, dependents would be moved to the safest feasible locations outside of the risk area. The above procedure is consistent with guidance in DOD Directive 3020.26, Continuity of Operations Policies and Planning.

Chairman HATFIELD. Provide for the record a table which shows all ERS anticipated whether an upgraded existing government facility or new government facility, a purchased or new non-government facility, the development or upgrade cost, and a projection of these costs by year thru competition.

General HEIBERG. Mr. Chairman, as noted in my earlier responses, we are continuing to plan for ERS at many locations. We are currently analyzing existing ERS for vulnerability against Department of the Army information on the current Soviet threat. The findings of that analysis will drive final ERS selection and establish facility requirements. The results of that analysis will be furnished. I am providing the existing 1984 list of ERS locations under separate documentation as it is classified. Since publication of that list, several ERS locations have changed and other changes are possible as the vulnerability analysis proceeds. Please recognize that no facility has been built solely for an ERS and that no facility has been purchased. The majority of ERS are existing government facilities and serve dual functions, with the primary use being other than ERS. No Federal funds have been used to upgrade non-government facilities. We have not undertaken any of the major facility upgrades or construction due to lack of funding, and to be consistent with our interpretation of guidance contained in the Conference Committee Report accompanying the Energy and Water Development Appropriation Act, 1985. Recognizing continued budget constraints, our FY 87 request is aimed at initiating those priority ERS upgrades where detailed planning is complete or projected for completion, and to continue detailed planning on other ERS.

Chairman HATFIELD. How much has been spent to date on ERS work? Is the $33 million identified in the Corps report, the cost to complete and does it include inflation through the period?

General HEIBERG. Since 1982 and including FY86, our projected obligations are approximately $1,970,000 for maintenance and necessary minimum upgrade of interim ERS and planning for permanent ERS. The $33 million identified in the Corps report is based on a projected average cost for facility upgrade of $450,000. This estimate recognizes that some facilities will require less effort while others may require significantly more. The estimates are in FY 84 dollars and do not reflect inflation.

Chairman HATFIELD. What is the present annual O&M requirement for all existing sites and what will be the annual O&M requirement when the plan is completed?

General HEIBERG. For existing sites, the FY 87 budget includes $690,000 for operation and maintenance. The annual O&M requirement of $850,000, as identified in our report to Congress, remains the best estimate for the long term.

PERSONNEL

Chairman HATFIELD. What is the total number of direct, full-time permanent positions for 1987 compared to 1986? And what is the level of full-time equivalent for 1987 versus 1986?

General HEIBERG. Sir, our projected number of direct, full-time permanent positions for 1987 is 25,466 compared to 25,613 for 1986. The level of direct full-time equivalents for 1987 is 27,326 versus 27,472 for 1986. Our full-time equivalent ceiling, including direct and reimbursable, for 1987 is 28,196 versus 28,395 for 1986.

Chairman HATFIELD. The total budget request for the Army Corps of Engineers is $3.069 billion. How much of this total is for salaries and expenses of your personnel, both direct and indirect?

General HEIBERG. The total estimted personnel salaries and benefits derived from the budget request for 1987 is $930 million, comprised of $904 million for direct civilian personnel and $26 million for military personnel. The indirect personnel costs, estimated at $28 million, are reimbursable costs not included in the budget request.

Chairman HATFIELD. Provide for the record a table showing each appropriation account, a breakout of both direct and indirect expenses, and a short explanation of what makes up the direct and indirect categories.

General HEIBERG. Direct personnel costs are funded by Civil Works appropriations while indirect personnel costs are funded on a reimbursable basis. A table of costs by appropriations will be provided for the record.

[The information follows:]

PERSONNEL COSTS

[Dollars in thousands]

Appropriation	Direct[1]	Reimbursable	Total
General investigations	84,610	66	84,676
Construction, general	191,280	26,410	217,690
Operation and maintenance, general	458,775	1,490	460,265
Flood control, MR&T	87,370	31	87,401
General expenses	86,490		86,490
Flood control and coastal emergencies	7,025	170	7,195
Permanent appropriations	380		380
Revolving fund	12,780		12,780
Rivers and Harbors Contributed Fund	1,672		1,672
Total	930,382	28,167	958,549

[1] Includes military personnel costs.

Chairman HATFIELD. Regarding the Construction, General Account—are sufficient personnel resources included in the 1987 budget to efficiently and effectively carry out the initiation of 60 new water projects (41 in 1985 Supplemental and 19 proposed in the 1987 budget)?

General HEIBERG. The new construction starts have increased workload for the planning, engineering and construction management functions. The need for increased manpower in these functions will be offset by savings from increased contracting and efficiencies. We are studying alternative ways to accomplish both commercial-type and noncommercial-type activities in order to determine which ways are best. We expect our studies to result in increased contracting with private industry to accomplish commercial-type activities at a lower cost, and increased efficiency in in-house ways to accomplish activities not contracted.

Chairman HATFIELD. The committee is aware that there is an imbalance of personnel resources in some Districts and Divisions. A good example of this situation is the Ohio River Division which has the responsibility of design, land acquisition, and construction management of a half dozen or more major new projects. Could you discuss this problem in general and indicate where such imbalance may exist, and how the Corps plans to correct the situation so that the construction program can be carried out in an optimum way?

General HEIBERG. Our system for allocating the manpower ceiling for the Civil Works Program is based on Corps-wide resource-use standards and priorities for the various categories of work funded by the Congress. The resource-use standards reflect an appropriate mix of work by contract and in-house labor. These standards and priorities are continuously reviewed. By comparing planned and actual program performance, we identify necessary adjustments in the standards or resource allocations. Each year we reallocate manpower to correct any potential for imbalance among the Divisions. To minimize fluctuations in employment, the recommended or funded new starts in all program phases are taken into account in evaluating the Division's current workload. In this way we can also prevent imbalances from developing. Projected new starts were included in our assessment of the Ohio River Division workload.

OIL PRICE DECLINE

Chairman HATFIELD. What impact will the decline in oil prices have on construction activities in 1987? What level of savings can be expected?

General HEIBERG. Construction projects vary as far as the percentage of fuel costs to the overall cost of the work. Respective costs for labor, materials and equipment would be much different for vertical construction such as a building, which would be more labor intensive, as opposed to a dam, which would require more equipment and thus be a fuel intensive operation.

For the variety of projects in the Civil Works construction program, 15 percent of the equipment cost is a reasonable average attributable to fuel. The recent five percent decrease in fuel prices, if passed on to contractors, could be reflected in lower bids and result in almost one-half of 1 percent savings in contract costs. This equates to approximately a four million dollar saving in the Construction, General, appropriation.

BUDGET AUTHORITY AND OUTLAY TRENDS

Chairman HATFIELD. The committee is trying to get a better handle on the outlays which can be expected on an annual basis. Could you prepare a table for the record which shows the Corps actual outlays by account for the last 10 years of record. The table should also include new budget authority provided each year and outlays resulting from the NBA, and the amount and outlays resulting from prior year authority?

Mr. DAWSON. The information will be provided for the record. The table will not include data for FY 1976; the transition quarter tended to distort the information. Also, a basic assumption had to be made: that carryover funds were outlaid first. From an overall approach that basic assumption is valid, but we have Construction, General, funds for example, which were appropriated for specific projects and, because of litigation or legislative constraints, must be "fenced" and carried over until such time as the constraint is lifted or the funds are expended.

[The information follows:]

OUTLAY TRENDS (1)
($000)

BUDGET AUTHORITY AND OUTLAYS	GENERAL INVESTIGATIONS	CONSTRUCTION, GENERAL (2)	OPERATION AND MAINTENANCE, GENERAL (3)	MISSISSIPPI RIVER AND TRIBUTARIES	GENERAL EXPENSES	FLOOD CONTROL AND COASTAL EMERGENCIES	PERMANENT APPROPRIATIONS	RIVER & HARBOR CONTRIBUTED FUND	INLAND WATERWAY TRUST FUND	GROSS TOTAL (4)
FY 1977 BUDGET AUTHORITY	71,920	1,430,195	669,600	221,497	49,050	22,140	6,026	31,463	0	2,511,891
TOTAL OUTLAYS	69,818	1,316,039	640,627	220,072	49,991	40,857	2,742	33,775	0	2,373,921
OUTLAYS FROM PRIOR YEAR AUTHORITY	15,403	499,196	95,342	82,264	2,403	23,569	2,742	30,959	0	751,878
OUTLAYS FROM NEW BUDGET AUTHORITY	54,415	816,843	545,285	137,808	47,588	17,288	0	2,816	0	1,622,043
FY 1978 BUDGET AUTHORITY	107,046	1,537,820	774,870	253,081	60,000	18,000	11,720	39,153	0	2,801,690
TOTAL OUTLAYS	96,145	1,428,768	762,447	224,679	55,998	5,663	6,061	38,500	0	2,618,261
OUTLAYS FROM PRIOR YEAR AUTHORITY	17,504	634,817	126,812	93,688	1,366	5,663	6,036	28,856	0	914,742
OUTLAYS FROM NEW BUDGET AUTHORITY	78,641	793,951	635,635	130,991	54,632	0	25	9,644	0	1,703,519
FY 1979 BUDGET AUTHORITY	137,978	1,343,711	836,400	223,035	68,900	126,000	8,239	34,892	0	2,779,155
TOTAL OUTLAYS	124,293	1,610,451	[illegible]	233,613	64,800	19,277	12,975	31,077	0	2,906,485
OUTLAYS FROM PRIOR YEAR AUTHORITY	28,404	745,297	[illegible]	122,091	5,202	19,277	11,695	29,510	0	1,100,713
OUTLAYS FROM NEW BUDGET AUTHORITY	95,889	865,154	670,762	111,522	59,598	0	1,280	1,567	0	1,805,772
FY 1980 BUDGET AUTHORITY	142,145	1,659,752	945,580	210,515	76,800	170,000	6,410	40,504	0	3,251,706
TOTAL OUTLAYS	138,836	1,655,120	890,229	246,502	71,231	156,420	6,923	34,430	0	3,199,691
OUTLAYS FROM PRIOR YEAR AUTHORITY	42,088	478,562	165,638	111,513	8,616	144,821	6,923	33,324	0	991,485
OUTLAYS FROM NEW BUDGET AUTHORITY	96,748	1,176,558	724,591	134,989	62,615	11,599	0	1,106	0	2,208,206
FY 1981 BUDGET AUTHORITY	134,013	1,593,892	972,905	237,519	86,630	25,000	6,778	81,032	0	3,137,769
TOTAL OUTLAYS	143,951	1,518,418	985,477	265,099	89,226	104,352	6,336	83,846	0	3,196,705
OUTLAYS FROM PRIOR YEAR AUTHORITY	45,399	455,496	218,489	75,526	13,721	104,352	6,336	39,189	0	958,508
OUTLAYS FROM NEW BUDGET AUTHORITY	98,552	1,062,922	766,988	189,573	75,505	0	0	44,657	0	2,238,197
FY 1982 BUDGET AUTHORITY	137,225	1,429,992	1,025,335	256,310	96,000	40,000	12,191	62,876	0	3,059,929
TOTAL OUTLAYS	130,385	1,452,572	980,797	246,755	83,850	36,806	6,771	65,380	0	3,003,316
OUTLAYS FROM PRIOR YEAR AUTHORITY	35,461	530,970	205,082	47,946	8,423	36,806	6,771	36,375	0	907,834
OUTLAYS FROM NEW BUDGET AUTHORITY	94,924	921,602	775,715	198,809	75,427	0	0	29,005	0	2,095,482
FY 1983 BUDGET AUTHORITY	139,042	1,508,405	1,206,309	403,052	100,100	54,877	9,524	43,700	0	3,465,009
TOTAL OUTLAYS	138,029	1,258,237	1,102,840	284,201	103,723	45,685	12,222	45,387	0	2,990,324
OUTLAYS FROM PRIOR YEAR AUTHORITY	42,301	508,390	250,387	57,501	20,387	45,685	12,222	33,871	0	970,744
OUTLAYS FROM NEW BUDGET AUTHORITY	95,728	749,847	852,453	226,700	83,336	0	0	11,516	0	2,019,580

FY 1984 BUDGET AUTHORITY	135,810	926,804	1,190,492	302,480	105,800	10,000	9,779	54,321	0	2,735,486
TOTAL OUTLAYS	138,621	1,102,701	1,287,245	394,861	104,331	36,821	9,495	50,240	0	3,124,315
OUTLAYS FROM PRIOR YEAR AUTHORITY	43,314	758,558	353,856	176,352	16,672	36,821	9,495	32,184	0	1,427,252
OUTLAYS FROM NEW BUDGET AUTHORITY	95,307	344,143	933,389	218,509	87,659	0	0	18,056	0	1,697,063
FY 1985 BUDGET AUTHORITY	141,400	947,500	1,307,600	321,800	115,000	50,000	12,906	49,729	7,800	2,953,735
TOTAL OUTLAYS	138,105	1,033,018	1,314,551	328,240	110,084	39,318	9,913	45,493	0	3,018,722
OUTLAYS FROM PRIOR YEAR AUTHORITY	40,503	582,661	257,103	83,971	17,424	31,845	9,895	36,265	0	1,059,667
OUTLAYS FROM NEW BUDGET AUTHORITY	97,602	450,357	1,057,448	244,269	92,660	7,473	18	9,228	0	1,959,055

(1) Table assumes funds carried over into the year are outlayed first.

(2) Includes the Consolidated Working Fund.

(3) Includes Special Recreation Use Fees.

(4) Does not include the Revolving Fund because outlays include positive outlays from prior year authority, new budget authority, and the corpus of the fund. Income to the fund is posted as a negative outlay. It would be difficult to separate these.

(5) Reflects late receipt of P. L. 98-8 (Jobs Bill) appropriations.

PROGRAM EXECUTION

Chairman **HATFIELD**. Mr. Dawson, on January 31, 1986 you sent me a report detailing your plans in carrying out Congressional changes to the President's fiscal year 1986 budget.

For the most part, you are trying—although to a limited extent in some cases—to comply with the intent of the Congress. In addition, your report in several instances indicates restoration of funds to generic support programs reduced by the Congress.

Doesn't this approach of selective compliance really force the Committee to earmark various activities in the legislation in order to insure our intent is followed?

Mr. **DAWSON**. In carrying out its programs, every agency must try to strike a balance between the policies of the Administration, of which it is a part, and the intent of Congress as expressed in the legislation and reports accompanying its appropriation. As you point out, we do try very hard to comply with Congressional changes to the President's budget. In those few instances where our policies and your intent conflict, we must be consistent with our own policies, to the extent the law allows.

Chairman **HATFIELD**. Now, I can understand why you may not wish to accomplish those items where there are increases, but why have you found it necessary to add funds back to some generic areas where Congress has made reductions based on declining program levels or large funding increases over the past few years?

Mr. **DAWSON**. Within the total amount appropriated by Congress to General Investigations, the Corps found two generic areas—Research and Development and Flood Plain Management Services—where it was felt there was a compelling case to restore a portion of the reduced allocation reflected in the Conference Committee report. Nonetheless, I understand the Committee's concern and will give particularly careful review to future proposals to restore reductions in generic areas.

RECREATION FACILITIES

Chairman **HATFIELD**. A particularly troublesome problem has been your treatment of recreation facilities to be constructed at full Federal expense. As an example, P.L. 99-141 contains legislative direction regarding recreation facilities at the Ouachita and Black Rivers project in Arkansas. Yet, it is unclear from the remarks in your letter as to exactly how you intend to carry out the law. Could you explain the meaning of "construction of recreation facilities to be in accord with ER 1165-2-400, reflect AAA advisory report, and be approved by OCE Natural Resources Management Branch"?

Mr. **DAWSON**. Yes, certainly. I will use a specific example, the Ouachita and Black Rivers Project in Arkansas and Louisiana. In accordance with the direction in the FY 1985 Supplemental Appropriation Act, funds will be allotted to the Ouachita and Black Rivers project to construct additional recreation facilities at full Federal expense, consistent with the 1986 conference committee report allocation of $3,500,000, as soon as the scope of facilities to be constructed has been defined, reviewed, and approved. In addition, we will make a transfer in FY 1986 to construct additional recreation facilities at full Federal expense up to the amount of $2,500,000 allocated for this purpose in the FY 1985 Conference committee report.

At this time, the Little Rock District is designing the recreation facilities to be constructed at the Ouachita and Black Rivers Project. Design will be completed in May 1986, and construction could be underway in July 1986. With regard to the scope of facilities to be constructed, the Army Audit Agency [AAA] prepared an advisory report in May 1985 which identifies numerous common problems identified during the AAA Corps-wide audit of recreation facilities which was completed in June 1984. The advisory report also discusses strengthened policies and improved practices aimed at solving these identified problems. The Corps has incorporated these and other improvements into ER 1165-2-400 which defines the objectives, philosophy, and basic policies for planning, development, and management of outdoor recreation and enhancement of fish and wildlife resource at Corps waters resources development projects. ER 1105-2-400, as revised in August 1985, provides rewritten policy guidance on the degree of participation in the various types of recreation facilities to be provided at Corps projects. We expect the recreation facilities being designed for the Ouachita and Black Rivers Project to be consistent with ER 1105-2-400. It is the OCE Natural

Resource Branch which is responsible for assuring that the scope of facilities to be constructed at the Ouachita and Black Rivers Project is consistent with the AAA advisory report and ER 1165-2-400.

APPLICATION OF SAVINGS AND SLIPPAGE

Chairman HATFIELD. Has the Corps of Engineers been told, formally or informally, to assign an amount of savings or slippage against the FY 1986 program in excess of the amounts shown in the Conference Report for FY 1986? If so, provide the source and nature of the instructions, the authority which allows such action, and the impact by project.

Mr. DAWSON. No, the Corps has not been told, formally or informally, to assign an amount of savings or slippage against the fiscal year 1986 program in excess of the amount shown in the conference report. However, I would like to point out that adjustment to the savings and slippage by the Corps is implicit to the process by which funds are alloted to specific items, because the amounts shown in the conference report as savings and slippage are not the only factor which affects these assignments on a project-by-project basis, particularly for the construction program. We must also consider the many items to be accomplished within available funds that are included in the House, Senate, and conference reports and the Appropriations Act itself. Some of these items have substantial funding requirements which must be accommodated from within the amount appropriated for each account either by using amounts assigned as savings and slippage to other projects in excess of the amounts shown in the conference report or by specific transfers from other projects. When assigning savings and slippage amounts to specific projects, we consider the project's unexpended carryover from the prior fiscal year. However, if the situation warrants providing additional funds to a specific project to which savings and slippage has been assigned, the Corps can restore the reduction from available funds nationwide and also use its transfer authority to allocate additional funds to the project.

SMALL PROJECTS PROGRAM

Chairman HATFIELD. Provide for the record a listing of each small projects program showing the current year funding, the amount included for 1987, and the amount necessary to complete. Also provide a list of those projects not included in the 1987 budget that have completed DPR's and are eligible for construction (include the date on which the DPR was approved.)

General HEIBERG. Yes; I will provide for the record a listing of actual and pending allocations for the small projects programs for Fiscal Years 1986 and 1987. However, you should be aware of the dynamic nature of these programs. The values shown represent the Corps of Engineers estimate as of February 18, 1986. As studies proceed and costs and benefits are determined, and local interests willingness and ability to pay are clarified, some activities will be terminated and others not listed may be initiated. Furthermore, we are managing each program to insure that only projects having predominately flood control and commercial navigation outputs proceed to construction.

All projects with completed DPR's that are available for construction are included on the lists being provided.

[The information follows:]

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

Program/Category/Item	Fiscal Year 1986	Fiscal Year 1987
NAVIGATION (Section 107)		
Initial Appraisals	175	100
Reconnaissance Studies	600	500
Detailed Project Studies		
Larson Bay (SBH), AK	245	
Sand Point (SBH), AK	20	
Whittier (SBH), AK	16	
Tennessee River, Florence, AL	80	
Tennessee River, Morgan County, AL	40	
Humboldt Harbor, Fields Landing, CA		125
Larkspur Ferry, Marin Co., CA	100	
Clearwater River, Lewiston, ID	125	
Calvert City, KY	80	
North Pass-Pass Manchac, LA		100
Gloucester Harbor, MA		35
Pine Point Harbor, MA		50
Green Harbor, MA	40	60
Bass River, MA	50	60
Saugus River, MA	20	
Winthrop Harbor, MA	40	25
Green Harbor, MA		55
Tombigbee River, Columbus, MA	50	
Bass Harbor, ME	50	60
Wood Island Harbor, ME	30	55
Perkins Cove, ME	55	70
Greenwood Port, MS	60	
Ocean Springs Harbor, MS		60
Harkers Island, Carteret Co., NC	140	85
Calabash Creek, NC	70	
Lake Erie, Sturgeon Point, NY	81	
Sheepshead Bay, NY	25	
Schuylkill River, Philadelphia, PA	18	
Point Judith Harbor, RI	70	65
Scotts Creek, VA	60	
Hunting and Guilford Creeks, VA	96	100
Nansemond River, constance Wharf, VA	29	
Kings Creek, VA	22	
Oak Harbor (SBH), WA	100	
Sandy Point (SBH), WA	15	
Subtotal DPS	1,827	1,005
Plans and Specifications		
Tennessee River, Morgan Co., AL	20	60
Tennessee River, Florence, AL	20	60
Dog River Channel, Mobile, AL	41	
Saxman SBH, AK	110	
Dillingham SBH, AK	200	
Juneau SBH, AK	35	
Larkspur Ferry, Marin Co., CA		150
Wilmington Harbor, DE	62	
Agat Harbor, GU	40	
Merizo Harbor, HI	50	10
Laupahoehoe Harbor, HI	80	
Saugus River, MA		75
Mint Channel, MD	70	
Tombigbee River, Columbus, MS		100
Schuylkill River, Philadelphia, PA	32	

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

Program/Category/Item	Fiscal Year 1986	Fiscal Year 1987
NAVIGATION (Section 107)		
Aquadilla Harbor, PR		100
Wachapreaque Channel, Accomack Co., VA	17	
Scotts Creek, VA	20	
Subtotal P&S	797	555
Construction		
Cordova (SBH), AK	80	
Mekoryuk, AK	1,000	400
Dog River, Mobile, AL		200
Tennessee River, Morgan County, AL		360
Tennessee River, Florence, AL		300
Larkspur Ferry, Marin Co., CA		220
Wilmington Harbor, DE		276
Bellville Point, GA	600	
Agat Harbor, GU	100	800
Laupahoehoe Harbor, HI	300	1,000
Burns Waterway (SBH), IN	75	
Lower Thorofare, Somerset Co., MD	1,370	
Zipple Bay, Lake of the Woods, MN	250	
Biloxi Harbor, East Harrison Co., Canal, MS	500	
Tombigbee River, Columbis, MS		400
Lorain Harbor, Lorain, OH	1,000	200
Aquadilla Harbor, PR		300
Wachapreaque channel, Accomack county, VA		84
Kalama Turning Basin, WA	645	
Subtotal Construction	5,920	4,540
Contingencies	46	200
Total Program (Section 107)	9,365	6,900
Reduction per Graham-Ruddman-Hollings Act	(-) 424	1/
Revised Total Program (Section 107)	8,941	1/

1/ Estimated Fiscal Year 1987 reductions not assigned.

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

Program/Category/Item	Fiscal Year 1986	Fiscal Year 1987
MITIGATION FOR NAVIGATION PROJECTS (Section 111)		
Initial Appraisals	10	10
Reconnaissance Studies	60	60
Detailed Project Studies		
Charleston Harbor, SC		60
Plans and Specifications		
Charleston Harbor, SC		100
Construction		
Herring Creek, Tall Timbers, MD	780	70
Total Program (Section 111)	850	300
Reduction per Graham-Ruddman-Hollings Act	(-)37	1/
Revised Total Program (Section 111)	813	1/

1/ Estimated Fiscal Year 1987 reduction not assigned.

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

Program/Category/Item	Fiscal Year 1986	Fiscal Year 1987
BEACH EROSION (Section 103)		
Initial Appraisals	35	50
Reconnaissance Studies	120	200
Detailed Project Studies		
Prospect Beach, West Haven, CT	55	
Town Beach, Old Saybrook, CT	10	
West Haven Beaches, CT	10	
Crooked River State Park, GA		40
Conimicut Point, Warwick, RI	80	
Projects Not Yet Identified		110
Subtotal DPS	155	150
Plans and Specifications		
North Shore, Indian River Inlet, DE	63	
South Shore, Indian River Inlet, DE	63	
Boca de Cangrejos, PR		50
Projects Not Yet Identified	100	250
Subtotal	226	300
Construction		
Boggy Bayou Shoreline, Valparaiso, FL		100
Dunedin Bay Shoreline, FL	300	
Ft. Clinch, Nassau Co., FL	300	400
Key Biscayne, Miami, FL	690	110
Landon Park, Wilmette. IL	190	
Lake Shore Park, Ashtabula, OH	70	
Boca de Cangrejos, PR		600
Projects Not Yet Identified		90
Subtotal Construction	1,550	1,300
Contingencies	64	100
Total Program (Section 103)	2,150	2,100
Reduction per Graham-Ruddman-Hollings Act	(-) 92	1/
Revised Total Program (Section 103)	2,058	1/

1/ Estimated fiscal year 1987 reductions not assigned.

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

Program/Category/Item	Fiscal Year	
	1986	1987
FLOOD CONTROL (Section 205)		
Initial Appraisals	500	600
Reconnaissance Studies	2,300	3,000
Detailed Project Studies		
Canal 43, Silver Lake, AR	20	
Cloverdale Drain, Little Rock, AR	100	
White River, Batesville, AR	30	
Fourteen Mile Slough, Stockton, CA	50	
Lake Elsinore, CA		180
Mission Zanja Creek, Redlands, CA	55	
Santa Clara River, Fillmore, CA	150	
Rialto Channel, Rialto, CA	150	170
Seminole Basin, Largo, FL	40	
Alligator Creek Basin, Clearwater, FL	35	
Placentia Canal, Savannah, GA	115	
Silver Creek, Rome, GA	10	
Springfield Canal, Savannah, GA	93	
Oelwein, Fayette County, IA	35	
Salmon River, Salmon, ID	20	
Fox River, IL	116	
Iroquois River & Sugar Creek, IL	75	
Wilmington, IL	105	
Pipe Creek, Alexandria, IN	55	
Lyford Levee, Tarke Co., IN	110	
Lincoln Draw, Hays, KS	47	
Buckhorn Creek, Campbellsville, KY		80
Bayou Natchitoches, LA	200	68
Aroostook River, Ft. Fairfield, ME	110	
Ontonogan, MI	48	
Lake Pulaski, Buffalo County, MI	15	
Gilmore Creek, MN	60	
Pearl-Flowood, MS	32	
Magby Creek, Columbus, MS	20	
Greens Creek, Petal, MS	15	
Crooked Creek, Bollinger Co., MO		35
St. Peters, MO	195	
McKenzie Creek, MO	100	
Scott City, MO		75
English Coulee, Grand Forks, ND	75	
Scuppernong River, NC		63
Lower Heart River, Mandan, ND	58	
Neche, ND	20	
East Canada Creek, Dodeville, NY	62	
Delaware River, Port Jervis, NY	15	
Corklin-Broome (Ice Jam), NY	90	70
Keuka Lake Outlet, NY	70	
Lake Champlain Municipal Beach, NY	100	60
Butternut Creek, Dewitt, NY	110	
Great Coharie Creek, Sampson Co., NC	45	
Crab Tree Creek & Tributaries, Wake, Co., NC	195	
Elizabeth River, Hillside, NJ	25	
Muskingum River, Mansfield, OH	35	
Swan Creek, Toledo, OH	100	
Great Miami River, OH	20	
Landis Ditch, Rittman, OH	51	
Blacklick Creek, Franklin, Co., OH	150	
Sugar Creek, Bellbrook, OH	30	

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

	Fiscal Year	
Program/Category/Item	1986	1987
FLOOD CONTROL (Section 205)		
Detailed Project Studies (Cont'd)		
Libby Dike, Coal Bank Slough, Coos Bay, OR	45	
Warrenton Diking District, OR	175	
Coal Creek, Henryetta, OK	100	
Merkle Creek, Norman, OK	60	
Mill Creek, Buck Co., PA		100
Hyndman, Bedford County, PA	200	
Rio Cibuco, Vega Baja, PR	151	
Socastee Creek, Horry Co., SC	45	
Browns Creek, Nashville, TN	20	
Richland and Sugartree Creeks, Davidson Co., TN		170
Limestone Creek, Davidson Co., TN		170
Dry Creek, Goodlettsville, TN	20	
Lorean Branch, Hurst, TX	15	
Lower Walnut Creek, Austin, TX	65	
Walnut Creek, Trib 7, Austin, TX	37	
Elm Fork, Gainesville, TX	50	
Little Walnut Creek, Austin, TX	66	
Burton Creek, Bryan, TX	86	
Missiquoi River, Richford, VT	20	
Elwha Klallam Reservation, Elwha River, WA	58	
Marsh Fork, Fairdale, WV	45	
N. Platte River, WY	13	
Projects Not Yet Identified		1,759
Subtotal DPS	4,728	3,000
Plans and Specifications		
Canal 43, Silver Lake, AR	45	
Mill Creek, AR	90	
Cribbs Mill Creek, Tuscaloosa, AL	40	
Fourteen Mile Slough, Stockton, CA		150
Telegraph Canyon, San Diego Co., CA	20	
Santa Clara River, Fillmore, CA		100
South Fork, Santa Clara River, CA	25	
Rippowam River, Stamford, CT	150	70
Wepawaug River, Milford, CT		150
West River, New Haven, CT		175
Federal Prison Creek, Atlanta, GA	16	
Mill Creek, Dalton, GA	20	
Placentia Canal, Savannah, GA		100
Kahawainui stream, Oahu, HI	160	
Vermilion River, Pontiac, IL	200	
Lancassange Creek, Clark County, IN	5	
Whitewater River, Hagerstown, IN	25	
Point of Pines, Revere, MA	200	145
Leaf & Bowie Rivers, Hattiesburg, MS	25	
Trim Cane Creek, MS	25	
Oneida Creek, NY	125	
Pebble Creek Scribner, NE	65	
Winnipesaukee River, NH	200	100
Red River, Argusville, ND	20	
San Francisco River, Reserve, NM	21	
East Canada Creek, Dodeville, NY		100
Clatsop County D/D Nos. 2 & 5, OR	22	

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

Program/Category/Item	Fiscal Year	
	1986	1987
FLOOD CONTROL (Section 205)		
Plans and Specifications		
Whiskey & Rock Creeks, OK	180	
Blacklick Creek, Franklin Co., OH		300
Allegheny River, oil city, PA	100	
Rio Cibuco, Vega Baja, PR	136	119
Scotts Creek, Newberry Co., SC	36	
Socastee Creek, Horry Co., SC		85
Humboldt, TN	36	
Kirbyville, TX	45	
Projects Not Yet Identified		1,721
Subtotal P&S	2,032	3,315
Construction		
White River, Jacksonport, AR	600	80
Little Red River, Clinton, AR	2,000	650
W. Magnesia Canyon Channel, Rancho Mirage, CA	2,765	
Los Coches Creek, San Diego Co., CA	1,800	1,670
Telegraph Canyon Creek, San Diego Co., CA	1,000	2,200
South Fork, Santa Clara River, CA		2,485
Canoe Creek, KY	100	
Salyersville, KY	300	
Paw Paw Lake, MI	2,500	
Halstad, MN	25	
Middle River, Argyle, MN	95	
Black Bear and Miller Lake, MN	274	
Hattiesburg, Leaf and Bowie Rivers, MS	1,300	800
Ararat River, NC	490	700
Lost Creek, Columbia, NE	300	
Pebble Creek, Scribner, NE	300	700
Beaver Brook, Keene, NH	1,000	700
Puerco River & Tributaries Gallup, NM	300	
Passaic River Basin Flood Warning system, NJ & NY	500	
Conesus Lake, NY	150	600
Upper Scioto River, Marion Co., OH	170	
Pennypack Creek, Hatboro, PA	315	
Poquessing Creek, Bucks Co., PA	498	
West Little Pine Creek, Etna, PA	600	1,800
Sabana Grande, Rio Guanajibo, PR	800	2,300
Humboldt, Lick Creek, TN	570	400
Calloway Branch, Hurst, TX	588	
South Mayo River, Stuart, VA	900	2,500
Projects Not Yet Identified		2,000
Subtotal Construction	20,240	19,585
Contingencies	200	500
TOTAL PROGRAM (Section 205)	30,000	30,000
Reduction per Graham-Ruddman-Hollings Act	(-)1,290	1/
Revised Total Program (Section 205)	28,710	1/

1/ Estimated Fiscal Year 1987 reductions not assigned.

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

	Fiscal Year	
Program/Category/Item	1986	1987
SNAGGING AND CLEARING (Section 208)		
Initial Appraisals	55	65
Reconnaissance Studies	200	215
Detailed Project Studies		
Plans and Specifications		
Boligee Canal, Boligee, AL	18	
Edwards River, New Boston, IL	5	
Pigeon Creek, Vanderburg Co., IN	20	
Little Wabash River, Wayne City, IN		20
Pleasant Creek, Johnson Co., IN		20
Cypress Creek, Marshall Co., KY	20	
Indian Creek, Wyoming Co., WV	7	
Projects Not Yet Identified	50	100
Subtotal P&S	120	140
Construction		
Boligee Canal, Boligee, AL	100	100
Konkapot, North Canan, CT		107
Edwards River, New Boston, IL	65	
Lick Creek, Hartford City, IN	100	48
Salamonie River, Montpelier, IN	146	
Pigeon Creek, Vanderburg Co., IN		140
Cypress creek, Marshall Co., KY	150	
Hatchie River, Alcorn Co., MS	11	
Owyhee River, Malheur Co., OR	68	
Brushy Creek, Greenville, SC	110	
Indian Creek, WV		60
Projects Not Yet Identified	___	225
Subtotal Construction	750	680
Contingencies	75	100
TOTAL PROGRAM (Section 208)	1,200	1,200
Reduction per Graham-Ruddman-Hollings Act	(-) 52	1/
Revised Total Program (Section 208)	1,148	1/

1/ Estimated Fiscal Year 1987 not assigned

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

	Fiscal Year	
Program/Category/Item	1986	1987
EMERGENCY STREAMBANK AND SHORELINE PROTECTION (Section 14)		
Initial Appraisals	600	800
Plans and Specifications		
Tennessee River, Sheffield, AL	31	
Lake Eufaula, Alabama State Docks, AL	16	
Nazline Wash, Chinle, AZ	43	
Marina County (WWTP), Marina, CA	10	
Waiehu Beach Park, Maui, HI	18	
Big Sioux River, Sec. 32, Plymouth Co., IA	12	
Lake Michigan, Beverly Shores, Road IN	15	
Lake Michigan, Berger Park, IL	17	
Little Blue River, Marshall County (FAS RD. 1108), KS	11	
Shallow Creek, MD	50	
Cass River, Bridgeport Charter Township, MI	34	
Nodaway River, Andrew Co., MO	13	
Goodfood Creek, Chickasaw Co., MS	15	
Martin Creek, Prentiss Co., MS	15	
Tallabinnela Creek, Chickasaw Co., MS	18	
Houston School Road Bridge, MS	20	
Big Brown Creek, Marietta - Hazeldell Road Bridges, MS	40	
Vernon Branch Bridge, Columbus, MS	20	
Blackbird Creek, Burt Co., NE	7	
Turkey Creek, Fillmore Co. (BR. 297), NE	13	
Turkey Creek, Fillmore Co. (BR. 123), NE	13	
Little Blue River, Pimpel Bridge, NE	13	
Little Blue River, Overy Bridge, NE	13	
Green Brook, Warrenville, NJ	25	
Green Brook, Green Brook, NJ	25	
Canipa Creek, Acoma Pueblo, NM	14	
Perkiomen Creek, Berks Co., PA	19	
Tunkhannock Creek, Tunkhannock, PA	36	
Darby Creek, Lansdowne Borough, PA	42	
Barrio Barrero, Rincon, PR	10	
El Terraplen, Highway 187, PR	10	
Clear River, Burrillville, RI	35	
Lewis Branch, Houston Co., TN	30	
Tennessee River(Mile 650), Downtown IS. Airport, Knoxville, TN	26	
Monongahela River, Monongahela Co., Granville, WV	16	
Projects Not Yet Identified		1,000
Subtotal P&S	745	1,000

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

Program/Category/Item	Fiscal Year 1986	 1987
EMERGENCY STREAMBANK AND SHORELINE PROTECTION Section 14		
Construction		
Lake Eufaula, Alabama State Docks, AL		108
Kuskokwin River, Bethel, AK	228	
White River, Batesville, AR	82	
Ofu Airstrip, Ofu, AS	25	
Nazline Wash, Chinle, AZ	200	
Flowing Wells Road, Tucson, AZ	180	
Amado Bridge, Tubac, AZ	150	
South Platte River, Balzac, CO	35	
Fountain Creek, Pueblo, CO		70
Fourth Street Bridge, Canon City, CO		65
South Platte River, Morgan Co., CO	48	
South Platte River, Weldona, CO	60	
South Platte River, Goodrich, CO	75	
Gulf Street and Trumbull Ave, CT	130	
Farmington River, Simsbury, CT		200
Waiehu Beach Park, Maui, HI		130
Big Sioux River, Plymouth Co. (Section 32), IA	75	
Big Sioux River, Plymouth County (Section 4), IA	60	
Ohio River, Ft. Massac State Park, IL	100	
Lake Michigan, Berger Park, IL	170	
Lake Michigan, Beverly Shores, Road, IN	176	
Little Blue River, Marshall County Rd, KS	50	
Green River, Calhoun, KY	38	
South River, Conway, MA		100
Shallow Creek, MD		200
Machias River, Machias, ME		180
Mississippi River, Warner Road, MN	100	
Nodaway River, Andrew Co., MO	132	
North River, Marion Co., MO	134	
Kimsey Creek, Holt Co., MO	60	
Nodaway River, Holt Co., MO	90	
Osage River, Miller Co., MO	120	
Big Brown Creek and Tributary, Marietta-Hazeldell Road Bridges, MS	190	
Goodfood Creek Bridge, Chickasaw Co., MS	58	
Vernon Branch Bridge, Columbus, MS		180
Houston School Road Bridge, MS		146
Martin Creek, Altitude Road Bridge, MS	94	
Tallabinella Creek, Paradise Valley Road Bridge, MS	55	
Noxubee River, MS	150	
Bridgeport, MI	139	
Canipa Creek, Acoma Pueblo, NM		148
Watkins Glenn, NY	22	
Rosewood Beach, NY	225	
Lake Bluff, NY	225	
Bouquet River, Elizabethtown, NJ	232	
Greenbrook, Warrenville, NJ		40
Beaver Creek, Webster County Bridge (23025) NE	25	
Big Blue River, Tuxedo Bridge, Crete, NE	55	
Little Blue River Overy Bridge, NE	45	
Little Blue River, Pimpel Bridge, NE	53	
Turkey Creek, Bridge 123, Fillmore Co., NE	23	
Turkey Creek, Bridge 297, Fillmore Co., NE	30	
Turkey Creek, Bridge 385, Fillmore Co., NE	10	

ACTUAL AND PENDING ALLOCATION FOR SMALL PROJECTS PROGRAMS
(Funds Shown in $1,000)

Program/Category/Item	Fiscal Year	
	1986	1987
EMERGENCY STREAMBANK AND SHORELINE PROTECTION Section 14		
CONSTRUCTION (cont'd)		
Blackbird Creek, Burt Co., NE	30	
Elm Creek, Webster County Bridge (33425), NE	20	
Indian Creek, West Branch, Webster Co., Bridge(13225), NE	21	
Redbird Creek, Holt Co., NE	37	
Spring Ranch Bridge, Clay Co., NE	10	
Pawnee Ranch Bridge, Clay Co., NE	17	
Big Nemaha River, Richardson, Co., NE	20	
Platte River, Hansen Lake, NE	35	
Wigle Creek, Homer, NE	18	
Yankee Creek, Vesta Bridge, NE	17	
Yankee Creek, West Tecumseh Bridge, NE	27	
Elk Creek, Jackson, NE	50	
County Road B-060, Amalia, NM	80	
Rio Ruidoso Bridge, Lincoln Co., NM	60	
South Canadian River, Konowa, OK		192
Willow Creek (WWTP), Creede, OK		40
Caney River, Wash Co., OK		153
Lake Erie, Route 531, Geneva, OH	200	
Kirkland, OH	55	
Perkiomen Creek, Berks Co., PA	31	
Darby Creek, Lansdowne Borough, PA	100	68
Tunkhannock Creek, Tunkhannock, PA		113
Barrio Barrero, Rinco, PR	90	
El Terraplen, Highway 187, PR	220	
Clear River, Burrillville, RI	90	
Vermillion River (WWTP), Vermillion, SD	21	
Nonconnah creek, TN	215	
Hammond Underwood, East Columbia, TX		150
Saxis Island, VA	150	77
Millbrook, Brownsville, VT		40
Barker Island, WI	25	
Lake Michigan, Port Washington, WI	175	-
Projects Not Yet Identified	-	3,000
Subtotal Construction	5,963	5,400
Contingencies	92	300
TOTAL PROGRAM (Section 14)	7,400	7,500
Reduction per Graham-Ruddman-Hollings Act	(-) 403	1/
Revised Total Program (Section 14)	6,997	1/

1/ Estimated Fiscal Year 1987 reductions not assigned.

FY 1987 CAPABILITIES FOR NEW STARTS

Chairman HATFIELD. Provide for the record a table showing the Corps funding capabilities for new studies, new planning starts and new construction starts in FY 1987.

General HEIBERG. To be meaningful, Mr. Chairman, a capability not only should be reflective of the preconstruction planning and engineering required prior to the construction of a project, but also the competition for available funds and manpower Army-wide. This is the basis for the amounts proposed in the President's Budget for Army's Fiscal Year 1987 Civil Works Program, and is consistent with the Administration's assessment of national priorities for Federal investments. Nevertheless, the list you have requested is being provided, even though the cited capability amount is for the individual project or study, considering that project or study by itself without reference to the rest of the program. It also should be pointed out that while additional funds for some individual studies or projects could be utilized, as indicated in the list, offsetting reductions would be required in order to maintain the President's budgetary objectives. For construction, capabilities for new starts have been developed for those projects which are ready to proceed and for which the sponsor has expressed a willingness to enter into an agreement for cost-sharing and financing consistent with the concepts agreed to by the Administration and the Senate Majority Leadership. Subject to the foregoing stated qualifications, I will provide for the record the capability for new studies, new planning starts, and new construction starts in Fiscal Year 1987.

[The information follows:]

STUDIES AVAILABLE FOR INITIATION

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ARIZONA				
FDP	NAVAJO INDIAN RESERVATION, AZ, NM & UT..	470	0	470
	STATE SUB-TOTAL	470	0	470
ARKANSAS				
FDP	ARKANSAS RIVER - RUSSELLVILLE - MORRILTON, AR	170	0	170
FDP	BLACK RIVER, MO & AR	415	0	415
FDP	LITTLE RED RIVER, AR	300	0	300
COM	RED RIVER BASIN COMP STUDY AR & LA	875	0	875
	STATE SUB-TOTAL	1,760	0	1,760
CALIFORNIA				
FDP	COACHELLA VALLEY BASIN, CA	320	0	320
N	HUMBOLDT HARBOR & BAY (DEEPENING), CA	330	0	330
FDP	MARIN COUNTY SHORELINE-SAN RAFAEL CANAL, CA	260	260	260
N	MORRO BAY HARBOR, CA	280	0	280
FDP	NORTHERN CALIFORNIA STREAMS, COLUSA BASIN, CA	200	0	200
FDP	NORTHERN CALIFORNIA STREAMS, BLUE RIDGE/CACHE CREEK, CA	200	0	200
FDP	NORTHERN CA STREAM, SACRAMENTO RIVER FLOOD CONTROL SYSTEM, CA	400	0	400
SP	POINT MUGU TO SAN PEDRO BREAKWATER, CA..	300	0	300
FDP	UPPER PUTAH CREEK, CA	200	0	200
	STATE SUB-TOTAL	2,490	260	2,490
CONNECTICUT				
COM	LONG ISLAND SOUND, CT (W. CENT. COASTAL FLOODING)	250	250	250
	STATE SUB-TOTAL	250	250	250
DIST OF COLUMBIA				
N	METROPOLITAN WASHINGTON, DC, SEDIMENTATION	250	0	250
	STATE SUB-TOTAL	250	0	250
FLORIDA				
N	CANAVERAL HARBOR, FL	50	0	50
	STATE SUB-TOTAL	50	0	50
GEORGIA				
N	ALTAMAHA RIVER, GA	215	0	215
FDP	METRO MACON AREA, BIBB COUNTY, GA	300	0	300
FDP	SATILLA RIVER BASIN, GA	200	0	200
FDP	UPPER COOSA RIVER BASIN, GA	350	0	350
	STATE SUB-TOTAL	1,065	0	1,065
HAWAII				
FDP	KEOPU-HIENALOLI STREAM, KONA, HI	130	130	130
	STATE SUB-TOTAL	130	130	130
IDAHO				
RDP	MUD LAKE ID	180	0	180
	STATE SUB-TOTAL	180	0	180
ILLINOIS				
FDP	SANGAMON RIVER, SOUTH FORK, FLAT BRANCH, IL	220	0	220
	STATE SUB-TOTAL	220	0	220

STUDIES AVAILABLE FOR INITIATION

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
IOWA				
FDP	CENTRAL RIVER BASINS OF IOWA, IA	270	0	270
FDP	CHARITON AND LITTLE CHARITON RIVERS AND TRIBUTORIES, IA & MO	200	0	200
FDP	MISSOURI RIVER, YANKTON, SOUTH DAKOTA TO MOUTH	600	0	600
FDP	NORTHWEST RIVER BASINS OF IOWA, IA	200	0	200
FDP	SOUTH CENTRAL RIVER BASINS OF IOWA, IA	180	0	180
	STATE SUB-TOTAL	1,450	0	1,450
KANSAS				
FDP	TURKEY CREEK BASIN, KANSAS.	310	310	310
	STATE SUB-TOTAL	310	310	310
KENTUCKY				
FDP	KENTUCTY RIVER AND TRIBS, KY (FDP) (STATION CAMP CREEK INTERIM)	400	400	400
	STATE SUB-TOTAL	400	400	400
LOUISIANA				
FDP	LOUISIANA COASTAL AREA, HURRICANE PROTECTION, LA	500	500	500
FDP	MERMENTAU, VERMILION RIVER & BAYOU TIGRE, LA	240	0	240
NAV	MISS. R. - GULF OUTLET BANK EROSION - ST. BERNARD.	160	0	160
FDP	TANGIPAHOA, TICKFAW AND TCHEFUNCTE RIVERS, LA	500	0	500
	STATE SUB-TOTAL	1,400	500	1,400
MARYLAND				
N	BALTIMORE HARBOR & CHANNELS, MD, ANCHORAGES	165	0	165
	STATE SUB-TOTAL	165	0	165
MICHIGAN				
FDP	SOUTHERN WAYNE COUNTY,MI	125	0	125
N	ST CLAIR RIVER, MI (ICE CONTROL)	150	0	150
N	ST. JOSEPH HARBOR, MI, (COMMERCIAL)	120	0	120
	STATE SUB-TOTAL	395	0	395
MINNESOTA				
FDP	RED LAKE AND CLEARWATER RIVERS, MN.	100	0	100
	STATE SUB-TOTAL	100	0	100
MISSOURI				
FDP	DRY FORK AND EAST FORKS LAKES, MISSOURI.	200	0	200
FDP	GRAND RIVER BASIN, MO & IA	310	0	310
FDP	MISS. RIVER ABOVE MO RIVER (CUIVER RIVER & AG AREAS 1,2, & 3),MO	400	0	400
FDP	ST. JOSEPH, MO AND VICINITY	210	210	210
N	ST. LOUIS HARBOR FLEETING OF COMMERCIAL. VESSELS, MO. & IL	150	0	150
	STATE SUB-TOTAL	1,270	210	1,270
MONTANA				
FDP	MILK RIVER BASIN, MT	120	0	120
	STATE SUB-TOTAL	120	0	120
NEW HAMPSHIRE				
FDP	ASHUELOT RIVER,NH	205	0	205
FDP	MASCOMA RIVER,NH	205	0	205
	STATE SUB-TOTAL	410	0	410

STUDIES AVAILABLE FOR INITIATION

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
NEW JERSEY				
FDP	ELIZABETH RIVER AND TRIBUTARIES, NJ.....	195	195	195
N	NJIWW, SHREWSBURY RIVER, NJ TO DELAWARE BAY, DE..............................	100	0	100
	STATE SUB-TOTAL	295	195	295
NEW YORK				
FDP	MOOSE & BLACK RIVERS, NY................	340	340	340
	STATE SUB-TOTAL	340	340	340
NORTH DAKOTA				
FDP	GRAND FORKS, ND.........................	400	0	400
	STATE SUB-TOTAL	400	0	400
OHIO				
FDP	BELLEVUE, OH............................	300	0	300
FDP	BLACK RIVER, LORAIN COUNTY, OH..........	200	0	200
FDP	HURON RIVER, OH.........................	200	0	200
FDP	METROPOLITAN REGION OF CINCINNATI, OH...	600	0	600
FDP	MIAMI RVR, LITTLE MIAMI RVR, & MILL CREEK BSNS, VERSAILLES, OH............	300	0	300
	STATE SUB-TOTAL	1,600	0	1,600
OREGON				
N	COOS BAY, OR............................	250	0	250
FDP	POWDER RIVER & TRIBUTARIES, OR..........	210	0	210
	STATE SUB-TOTAL	460	0	460
PENNSYLVANIA				
N	DELAWARE RIVER & TRIBS DRIFT REMOVAL, PA, NJ & DE..........................	135	0	135
	STATE SUB-TOTAL	135	0	135
PUERTO RICO				
N	GUAYANES, LAS MAREAS AND GUAYANILLA HARBORS, PR.........................	75	0	75
	STATE SUB-TOTAL	75	0	75
TEXAS				
MP	BARDWELL LAKE, TX.......................	50	0	50
N	CHANNEL TO VICTORIA, TX (DEEP DRAFT)....	170	0	170
SPE	MATAGORDA COUNTY, TX....................	155	0	155
N	PORT LAVACA TO RED BLUFF, TX............	100	0	100
	STATE SUB-TOTAL	475	0	475
WASHINGTON				
N	BELLINGHAM HARBOR, WA...................	150	150	150
(N)	OLYMPIA HARBOR, WA......................	150	150	150
	STATE SUB-TOTAL	300	300	300
WEST VIRGINIA				
FDP	LITTLE KANAWHA RIVER, WV................	200	0	200
	STATE SUB-TOTAL	200	0	200
WISCONSIN				
N	GREEN BAY HARBOR, WI....................	130	0	130
	STATE SUB-TOTAL	130	0	130
	NATIONAL TOTAL	17,295	2,895	17,295

CAPABILITIES FOR INITIATION OF CP&E

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ALASKA				
N	ST. PAUL ISLAND HARBOR, AK	550	400	400
	STATE SUB-TOTAL	550	400	400
ARKANSAS				
FDP	PINE BLUFF METRO AREA, AR	775	0	100
	STATE SUB-TOTAL	775	0	100
CONNECTICUT				
N	NEW HAVEN HARBOR, CT	550	450	450
FC	WESTCHESTER COUNTY STREAMS, BYRAM RIVER, CT & NY	740	0	300
	STATE SUB-TOTAL	1,290	450	750
HAWAII				
FC	ALENAIO STREAM, HAWAII	500	0	150
	STATE SUB-TOTAL	500	0	150
ILLINOIS				
FDP	CHICAGOLAND UNDERFLOW PLAN, IL (O'HARE RESERVOIR)	215	0	185
	STATE SUB-TOTAL	215	0	185
IOWA				
FDP	MUSCATINE ISLAND LEVEE AND DRAINAGE DISTRICT, IA	150	0	150
	STATE SUB-TOTAL	150	0	150
KANSAS				
FDP	ARKANSAS CITY, KS	855	0	450
FDP	UPPER LITTLE ARKANSAS RIVER WATERSHED, KANSAS	1,060	0	400
	STATE SUB-TOTAL	1,915	0	850
MICHIGAN				
N	GRAND HAVEN HARBOR, MI (COMMERCIAL)	675	0	310
N	GREAT LAKES CONNECTING CHANNELS AND HARBORS, SECOND LOCK, MI	8,300	0	2,000
	STATE SUB-TOTAL	8,975	0	2,310
MINNESOTA				
N	DULUTH SUPERIOR HARBOR, MN & WI	575	180	180
FDP	MISSISSIPPI RIVER AT ST. PAUL, MN	650	0	350
	STATE SUB-TOTAL	1,225	180	530
MISSISSIPPI				
N	PASCAGOULA HARBOR DEEPENING, MS (CP&E)	1,900	0	900
	STATE SUB-TOTAL	1,900	0	900
MISSOURI				
FC	CAPE GIRARDEAU-JACKSON AREA, MO	1,600	500	500
FDP	STE GENEVIEVE, MO	2,200	0	500
	STATE SUB-TOTAL	3,800	500	1,000
NEBRASKA				
FDP	PAPILLION CREEK AND TRIBUTARIES LAKES, NE	300	0	300
	STATE SUB-TOTAL	300	0	300

CAPABILITIES FOR INITIATION OF CP&E

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
NEVADA				
FC	TRUCKEE MEADOWS, NV	3,300	0	1,400
	STATE SUB-TOTAL	3,300	0	1,400
NEW JERSEY				
N	DEL RIV IN VIC OF CAMDEN(BECKETT ST TERMINAL),NJ	200	0	125
FC	LOWER SADDLE RIVER, NJ	2,400	0	500
FC	MOLLY ANN'S BROOK,NJ	2,050	0	250
FC	RAHWAY RI BASIN,UPPER ROBINSONS BRANCH, CLARK & SCOTCH PLAINS,NJ	470	0	150
FC	RAMAPO RIVER AT OAKLAND, NJ	750	0	250
	STATE SUB-TOTAL	5,870	0	1,275
NEW YORK				
FC	GOWANUS CREEK CHANNEL,NY	1,980	0	190
FDP	TONAWANDA CREEK, NY	825	0	300
	STATE SUB-TOTAL	2,805	0	490
NORTH DAKOTA				
FDP	GRAFTON, ND	800	0	300
	STATE SUB-TOTAL	800	0	300
OHIO				
FC	CENTRAL OHIO AT NORTH CHILLICOTHE, OH (CP&E)	800	250	250
N	LORAIN HARBOR, OH	317	200	200
	STATE SUB-TOTAL	1,117	450	450
OKLAHOMA				
FDP	FRY CREEK, LOCAL PROTECTION, BIXBY, OKLAHOMA	455	0	330
	STATE SUB-TOTAL	455	0	330
PENNSYLVANIA				
FC	SAW MILL RUN AT PITTSBURGH, PA	400	0	150
N	SCHUYLKILL RIV (MOUTH TO PENROSE AVE), PA	250	0	100
	STATE SUB-TOTAL	650	0	250
PUERTO RICO				
FDP	RIO PUERTO NUEVO, PR	6,000	0	1,500
N	SAN JUAN HARBOR (PHASE I), PR (CP&E)	700	0	100
	STATE SUB-TOTAL	6,700	0	1,600
RHODE ISLAND				
FC	BIG RIVER RESERVOIR, RI	1,700	0	650
	STATE SUB-TOTAL	1,700	0	650
TEXAS				
FDP	CYPRESS CREEK,VIC OF HOUSTON,TX	4,590	0	500
N	GUADALUPE RIVER, CHANNEL TO VICTORIA, TX	580	0	200
FDP	LOWER RIO GRANDE BASIN, TX	1,370	0	700
FDP	PALO BLANCO & CIBOLO CREEKS IN VICINITY OF FALFURRIAS, TX	500	0	200
	STATE SUB-TOTAL	7,040	0	1,600
VIRGINIA				
N	HAMPTON ROADS DRIFT REMOVAL,VA	550	0	280
	STATE SUB-TOTAL	550	0	280

CAPABILITIES FOR INITIATION OF CP&E

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
WASHINGTON				
FC	CENTRALIA, WA	1,330	0	400
	STATE SUB-TOTAL	1,330	0	400
WISCONSIN				
FDP	WISCONSIN RIVER, PORTAGE, WI	825	0	300
	STATE SUB-TOTAL	825	0	300
	NATIONAL TOTAL	54,737	1,980	16,950

PROJECTS AVAILABLE FOR INITIATION OF AE&D

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
MICHIGAN				
N	HOLLAND HARBOR, MI	3,510	0	150
	STATE SUB-TOTAL	3,510	0	150
NEW MEXICO				
FC	RIOGRANDE FLOODWAY SAN ACACIA TO BOSQUE. DEL APACHE UNIT, NM	32,300	500	500
	STATE SUB-TOTAL	32,300	500	500
OHIO				
FC	OTTAWA, OH	962	150	150
	STATE SUB-TOTAL	962	150	150
PENNSYLVANIA				
N	DELAWARE RIVER, PHIL. PA TO TRENTON NJ . (TIOGA TERMINAL)	2,300	0	100
	STATE SUB-TOTAL	2,300	0	100
WEST VIRGINIA				
FC	ROWLESBURG LAKE, W. VA	770,000	0	500
	STATE SUB-TOTAL	770,000	0	500
	NATIONAL TOTAL	809,072	650	1,400

PROJECTS AVAILABLE FOR INITIATION OF CONSTRUCTION

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ALABAMA				
FC	THREEMILE CREEK - MOBILE, AL	9,470	2,300	2,300
	STATE SUB-TOTAL	9.470	2,300	2,300
ARKANSAS				
FC	FOURCHE BAYOU IN THE VICINITY OF LITTLE ROCK, AR	18 260	760	760
	STATE SUB-TOTAL	18,260	760	760
CALIFORNIA				
N	OAKLAND OUTER HARBOR, CA	14,900	2,500	2,500
FC	PAJARO RIVER, CA	1,820	500	500
FC	REDBANK & FANCHER CREEKS, CA	55,200	2,000	2,000
FC	SAN LUIS REY RIVER, CA	29,700	0	1,500
	STATE SUB-TOTAL	101,620	5,000	6,500
COLORADO				
FC	FOUNTAIN CREEK AT PUEBLO, CO	5,910	0	1,360
	STATE SUB-TOTAL	5,910	0	1,360
FLORIDA				
N	JACKSONVILLE HARBOR,FL-MILL COVE	4,000	2,000	2,000
	STATE SUB-TOTAL	4,000	2,000	2,000
GUAM				
FC	AGANA RIVER, GUAM	3,860	700	700
	STATE SUB-TOTAL	3,860	700	700
ILLINOIS				
FC	MOLINE, IL	18,200	0	500
FC	SOUTH QUINCY D&L DISTRICT, IL	9,670	1,000	1,000
	STATE SUB-TOTAL	27,870	1,000	1,500
KANSAS				
FC	GREAT BEND, KS	59,300	2,600	2,600
FC	HALSTEAD, KANSAS	7,750	1,100	1,100
	STATE SUB-TOTAL	67,050	3,700	3,700
MASSACHUSETTS				
BE	REVERE BEACH, MA	5,170	700	700
FC	TOWN BROOK, MA	21,500	0	2,800
	STATE SUB-TOTAL	26,670	700	3,500
MINNESOTA				
FC	CHASKA, MN	16,600	0	1,600
FC	SOUTH FORK ZUMBRO RIVER AT ROCHESTER, MN	53,000	1,400	1,400
	STATE SUB-TOTAL	69,600	1,400	3,000
MISSISSIPPI				
FC	SOWASHEE CREEK MERIDIAN, MS 6/.	11,250	900	900
	STATE SUB-TOTAL	11,250	900	900
NEW HAMPSHIRE				
N	PORTSMOUTH HBR & PISCATAQUA RIVER, NH, ME	14,300	3,000	3,000
	STATE SUB-TOTAL	14,300	3,000	3,000

PROJECTS AVAILABLE FOR INITIATION OF CONSTRUCTION

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
NEW JERSEY				
N	DELAWARE RIVER IN THE VICINITY OF ...... CAMDEN, NJ..........................	2,870	2,650	2,650
	STATE SUB-TOTAL	2,870	2,650	2,650
NORTH CAROLINA				
FC	RANDLEMAN LAKE, NC......................	111,400	0	3,000
	STATE SUB-TOTAL	111,400	0	3,000
PENNSYLVANIA				
FC	FRANCIS E. WALTER DAM, PA-MODIFICATION..	14,400	3,000	3,000
FC	TAMAQUA, PA.............................	8,540	0	1,340
	STATE SUB-TOTAL	22,940	3,000	4,340
PUERTO RICO				
N	PONCE HARBOR, PR........................	7,328	2,000	2,000
	STATE SUB-TOTAL	7,328	2,000	2,000
TEXAS				
FC	LAKE WICHITA HOLLIDAY CREEK AT WICHITA . FALLS, TX.............................	30,000	700	700
	STATE SUB-TOTAL	30,000	700	700
WASHINGTON				
FC	MT. ST. HELENS SEDIMENT CONTROL, WA	148,000	17,000	17,000
	STATE SUB-TOTAL	148,000	17,000	17,000
WISCONSIN				
* FC	STATE ROAD AND EBNER COULEES, WI.......	27,200	0	900
	STATE SUB-TOTAL	27,200	0	900
	NATIONAL TOTAL	709,598	46,810	59,810

STUDIES AVAILABLE FOR INITIATION
MISSISSIPPI RIVER & TRIBUTARIES

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ARKANSAS				
FDP	GRAHAM BURKE PUMPING PLANT & LOWER ..... WHITE RIVER, AR.......................	305	0	305
	STATE SUB-TOTAL	305	0	305
KENTUCKY				
N	HICKMAN HARBOR, KY......................	305	0	305
	STATE SUB-TOTAL	305	0	305
MISSISSIPPI				
FDP	TUSCUMBIA RIVER BASIN, MS...............	250	0	250
	STATE SUB-TOTAL	250	0	250
	NATIONAL TOTAL	860	0	860

CAPABILITIES FOR INITIATION OF CP&E
MISSISSIPPI RIVER & TRIBUTARIES

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ARKANSAS				
FC	HELENA, AR & VIC....	875	0	500
FC	WEST MEMPHIS, AR........................	625	0	325
	STATE SUB-TOTAL	1,500	0	825
MISSISSIPPI				
FC	HORN LAKE CREEK & TRIBS INCLUDING ...... COWPEN CREEK, MS & TN.................	400	0	250
	STATE SUB-TOTAL	400	0	250
	NATIONAL TOTAL	1,900	0	1,075

FY 1987 Capabilities for Ongoing Items

Chairman Hatfield. Provide for the record a table showing the Corps funding capabilities for FY 1987 for ongoing studies, planning and construction projects.

General Heiberg. Subject to the capability statement previously submitted for new starts, I will provide for the record the capability for ongoing items.

[The information follows:]

CAPABILITIES FOR STUDIES UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ALABAMA				
N	APALACHICOLA RIVER "308" REPORT, GA, AL. & FL.	2,268	300	300
N	BAYOU LA BATRE, AL.	269	60	60
FDP	TOMBIGBEE RIVER AND TRIBUTARIES, AL & MS.	3,440	990	990
FDP	VALLEY CREEK WARRIOR RIVER & TRIBUTARIES, AL.	598	148	148
	STATE SUB-TOTAL	6,575	1,498	1,498
ALASKA				
FDP	HOMER SPIT EROSION, AK.	802	297	297
FDP	RIVERS AND HARBORS, AK.	9,620	946	946
N	SOUTHCENTRAL REGION, AK.	2,015	163	163
	STATE SUB-TOTAL	12,437	1,406	1,406
ARIZONA				
FDP	GILA RIVER & TRIBUTARIES, NOGALES WASH, AZ.	735	85	85
FDP	GILA RIVER AND TRIBUTARIES, AZ & NM.	5,280	276	506
FDP	PHOENIX METROPOLITAN AREA, AZ.	3,808	38	38
	STATE SUB-TOTAL	9,823	399	629
ARKANSAS				
FDP	ARKANSAS RIVER BASIN, AR AND OK.	1,360	550	550
FDP	CLARKSVILLE, AR.	900	175	175
FDP	OUACHITA RIVER BASIN, AR & LA.	8,390	400	400
FDP	VILLAGE CREEK (TAYLOR BAY) (SECTION 216).	649	0	50
COM	WHITE RIVER BASIN AUTHORIZATION REPORT AR & MO.	1,155	400	400
	STATE SUB-TOTAL	12,454	1,525	1,575
CALIFORNIA				
SPE	COAST OF CALIFORNIA, STORM AND TIDAL WAVES, CA.	7,740	1,000	1,500
FDP	LOS ANGELES COUNTY DRAINAGE AREA - REVIEW, CA.	5,500	1,150	1,150
N	LOS ANGELES-LONG BEACH HARBORS (INCL SAN PEDRO MODEL), CA.	7,800	0	500
FDP	NORTHERN CALIFORNIA STREAMS, DRY CREEK, CA.	750	100	150
FDP	SACRAMENTO - SAN JOAQUIN DELTA, CA.	2,900	250	250
FDP	SAN FRANCISCO BAY SHORELINE, CA.	4,280	840	840
FDP	SAN JOAQUIN RIVER BASIN, TULE RIVER, CA.	650	100	100
FDP	SAN JOAQUIN RIVER BASIN, CALIENTE CREEK, CA.	1,778	120	120
FDP	SAN JOAQUIN RIVER BASIN, KAWEAH RIVER, CA.	715	100	100
FDP	SAN JOAQUIN RIVER BASIN, CA.	4,415	0	200
FDP	SANTA ANA RIVER & ORANGE COUNTY, CA.	9,500	600	700
SP	SANTA BARBARA COUNTY (BEACH EROSION), CA.	319	0	149
N	VENTURA MARINA REVIEW, CA.	635	175	175
	STATE SUB-TOTAL	46,982	4,435	5,934
COLORADO				
FDP	FOUNTAIN CREEK AND TRIBS - NORTH OF PUEBLO, CO.	680	210	210
FDP	PLATTE RIVER BASIN, NE, WY, CO.	559	140	140
	STATE SUB-TOTAL	1,239	350	350
COMM N. MARIANAS				
N	COMPREHENSIVE STUDY COMMONWEALTH OF NORTHERN MARIANA ISLANDS.	510	50	50
	STATE SUB-TOTAL	510	50	50

CAPABILITIES FOR STUDIES UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
CONNECTICUT				
COM	CONN R.B. AUTH REPORTS, CT,MA,NH & VT...	4,545	190	190
COM	LONG ISLAND SOUND, CT (AUTHORIZATION ... REPORTS)............................	460	50	50
	STATE SUB-TOTAL	5,005	240	240
FLORIDA				
SP	BREVARD COUNTY, FL......................	264	0	75
FDP	CENTRAL & SOUTHERN FLORIDA HILLSBORO ... CANAL EAST OF AREAS 1&2..............	250	0	250
N	CLEARWATER SPOIL DISPOSAL, FL...........	237	0	77
FDP	COAST OF FLORIDA EROSION & STORM .... EFFECTS STUDY.........................	5,520	750	750
RDP	HUDSON RIVER, FL........................	100	50	50
N	PORT EVERGLADES HARBOR, FL..............	140	50	50
FDP	ST. MARY'S RIVER BASIN, FL & GA.........	1,075	250	250
FDP	SUWANNEE RIVER, FL......................	1,648	0	300
	STATE SUB-TOTAL	9,234	1,100	1,802
GEORGIA				
N	BRUNSWICK HARBOR, GA.....	1,370	500	500
FDP	NORTHEAST GEORGIA REGION, GA............	1,541	259	259
FDP	SAVANNAH RIVER BASIN, GA, SC & NC.......	950	210	210
FDP	TURKEY CREEK, GA........................	334	100	125
	STATE SUB-TOTAL	4,195	1,069	1,094
GUAM				
N	HARBORS & RIVERS IN THE TERRITORY OF ... GUAM, GU..............................	3,538	270	270
	STATE SUB-TOTAL	3,538	270	270
HAWAII				
FDP	HARBORS AND RIVERS IN HAWAII, SOUTH .... KOHALA WATER SUPPLY, HI...............	350	117	117
FDP	HARBORS & RIVERS IN HAWAII, HI..........	3,429	100	100
	STATE SUB-TOTAL	3,779	217	217
IDAHO				
FDP	COLUMBIA RIVER & TRIBUTARIES, ID, MT, .. OR, WA & WY...........................	22,122	1,809	1,859
FDP	PALOUSE RIVER & TRIBUTARIES, ID & WA....	766	0	112
FDP	UPPER SNAKE RIVER & TRIBUTARIES, ID & .. WY.....................	8,283	836	836
	STATE SUB-TOTAL	31,171	2,645	2,807
ILLINOIS				
FDP	ALEXANDER AND PULASKI COUNTIES, IL......	1,300	400	400
FDP	CHICAGO-SOUTH END OF LAKE MICHIGAN, IL . & IN.................................	4,901	300	300
SPE	DIVERSION OF LAKE MICHIGAN WATER AT .... CHICAGO, IL...........................	1,981	230	230
FDP	ILLINOIS RIVER BETWEEN HENRY, NAPLES, .. IL....................................	1,630	330	330
BE	ILLINOIS SHORE OF LAKE MICHIGAN, IL.....	1,608	415	415
FDP	ST. LOUIS METRO, MO & IL................	11,860	1,054	1,054
	STATE SUB-TOTAL	23,280	2,729	2,729
INDIANA				
FDP	FORT WAYNE METROPOLITAN AREA , INDIANA..	936	121	121
N	WABASH RIVER BASIN COMPREHENSIVE IN & .. IL (NAV INTERIM)......................	2,900	200	350
	STATE SUB-TOTAL	3,836	321	471
KANSAS				
FDP	ARK RIV AND TRIBS GREAT BEND KS TO ..... TULSA, OK.............................	7,290	600	600
FDP	ARKANSAS RIVER FROM GREAT BEND KS TO ... JOHN MARTIN DAM, CO...................	2,720	0	170

CAPABILITIES FOR STUDIES UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
FDP	BLUE RIVER BASIN, KANSAS AND MISSOURI	585	200	200
FDP	GRAND NEOSHO RIVER, KS & OK	3,660	600	600
FDP	WINFIELD, KS	570	50	50
	STATE SUB-TOTAL	14,825	1,450	1,620
KENTUCKY				
N	CUMBERLAND-TENNESSEE RIVERS, KY, AL, GA, MS, NC, TN, & VA	7,222	1,450	1,450
FDP	KENTUCKY RIVER AND TRIBUTARIES KY	2,917	430	430
FDP	OHIO RIVER MAIN STEM, PA, IL, IN, OH, & WV	14,970	2,560	2,560
FDP	TRADEWATER RIVER BASIN, KY	850	200	200
FDP	UPPER CUMBERLAND RIVER BASIN, KY & TN	2,412	0	150
	STATE SUB-TOTAL	28,371	4,640	4,790
LOUISIANA				
FDP	AMITE RIVER AND TRIBUTARIES, LA	2,145	400	400
N	BAYOU LAFOURCHE & LAFOURCHE-JUMP WW, LA	180	50	50
N	GULF INTRACOASTAL WATERWAY, LA & TX SECTION	4,270	625	625
FDP	LAKE PONTCHARTRAIN-WEST SHORE, LA	1,050	0	100
FDP	LOUISIANA COASTAL AREA, SHORE & BARRIER ISLAND EROSION, LA	1,670	240	240
FDP	LOUISIANA COASTAL AREA, WATER SUPPLY, LA	2,233	430	430
FDP	LOUISIANA COASTAL AREA - LAND LOSS AND MARSH CREATION, LA	1,515	220	220
FDP	MERMENTAU, VERMILION, & CALCASIEU RVS & BAYOU TECHE, LA	4,950	460	460
FDP	PEARL RIVER BASIN, MS & LA	8,600	590	590
FDP	UPPER BAYOU TECHE, LA	385	140	220
	STATE SUB-TOTAL	26,998	3,155	3,335
MAINE				
FDP	SAINT JOHN RIVER, ME	3,000	400	400
	STATE SUB-TOTAL	3,000	400	400
MARYLAND				
N	BALTIMORE HARBOR & CHANNELS DREDGED MATERIAL DISPOSAL MD & VA	225	0	150
SP	CHESAPEAKE BAY, (SHORELINE EROSION) MD & VA	2,000	450	450
FDP	MONONGAHELA-YOUGHIOGHENY RIVER BASIN PA, MD & WVA	8,733	700	700
	STATE SUB-TOTAL	10,958	1,150	1,300
MASSACHUSETTS				
N	BOSTON HARBOR, MA	735	80	80
FDP	HOOSIC RIVER, MA, VT & NY	1,600	0	230
COM	SOUTHEASTERN NEW ENGLAND, MA, RI & CT (AUTHORIZATION REPORTS)	2,550	223	223
	STATE SUB-TOTAL	4,885	303	533
MICHIGAN				
FDP	GREAT LAKES PARTICULARLY LAKE ONTARIO AND LAKE ERIE, MI	9,865	130	130
FDP	SAGINAW RIVER, MI	3,800	900	900
SPE	WATER LEVELS OF THE GREAT LAKES, MI, IL, IN, MN, NY, OH, PA, & WI	5,540	0	600
	STATE SUB-TOTAL	19,205	1,030	1,630
MINNESOTA				
FDP	MINNESOTA RIVER VALLEY, MN	6,750	350	350
FDP	RED RIVER OF THE NORTH, MN & ND	8,790	470	470
	STATE SUB-TOTAL	15,540	820	820
MISSISSIPPI				
FDP	MISSISSIPPI GULF COASTAL AREAS, MS	860	215	215
	STATE SUB-TOTAL	860	215	215

CAPABILITIES FOR STUDIES UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
MISSOURI				
FDP	CREVE COEUR CREEK, MO (INTERIM - ST. LOUIS METRO)	1,100	50	50
SP	MERAMEC RIVER BASIN, MO	700	480	480
FDP	OSAGE RIVER BASIN, MO, ABOVE HARRY S TRUMAN DAM	1,370	275	275
	STATE SUB-TOTAL	3,170	805	805
NEBRASKA				
FDP	SALT CREEK & TRIBUTARIES LAKES, NE	410	145	145
	STATE SUB-TOTAL	410	145	145
NEVADA				
FDP	LAS VEGAS WASH & TRIBUTARIES, NV	1,652	320	500
	STATE SUB-TOTAL	1,652	320	500
NEW JERSEY				
N	DELAWARE RIVER COMPREHENSIVE NAVIGATION STUDY, NJ, PA, & DE	6,334	850	850
FDP	HACKENSACK RIVER BASIN, NJ&NY	4,271	0	1,000
FDP	RARITAN RIVER BASIN, NJ	3,813	0	200
	STATE SUB-TOTAL	14,418	850	2,050
NEW MEXICO				
FDP	LAS CRUCES, NM (REVIEW OF COMPLETED PROJECT)	125	50	50
FDP	PECOS REVER & TRIBS, CARLSBAD, NM	825	95	95
FDP	PECOS RIVER & TRIBS, CARLSBAD, NM	720	300	300
FDP	RIO GRANDE AND TRIBUTARIES, NM & CO	7,070	500	560
	STATE SUB-TOTAL	8,740	945	1,005
NEW YORK				
FDP	BUFFALO METROPOLITAN AREA, NY	2,743	300	300
FDP	CATTARAUGUS CREEK, NY	505	100	100
COM	GENESEE RIVER BASIN AUTH REPORT, NY	855	250	250
BE	LAKE ONTARIO - ST. LAWRENCE RIVER, NY	4,180	600	600
N	NEW YORK HARBOR AND ADJACENT CHANNELS, NY & NJ	4,955	200	200
N	ST.LAWRENCE SEAWAY ADDITIONAL LOCKS, NY.	4,009	200	200
	STATE SUB-TOTAL	17,247	1,650	1,650
NORTH CAROLINA				
FDP	EASTERN NORTH CAROLINA ABOVE CAPE LOOKOUT,NC	1,582	460	460
FDP	LITTLE PEE DEE AND PEE DEE RIVERS, NC AND SC	1,785	450	450
N	MOREHEAD CITY HARBOR, NC	516	125	125
FDP	NEUSE RIVER,NC	2,963	465	465
SP	WEST ONSLOW BEACH AND NEW RIVER INLET, NC	812	0	100
	STATE SUB-TOTAL	7,658	1,500	1,600
NORTH DAKOTA				
FDP	CANNONBALL RIVER, MOTT, ND	225	145	145
FDP	SOURIS RIVER BASIN, ND	1,580	600	600
	STATE SUB-TOTAL	1,805	745	745
OHIO				
FDP	CENTRAL OHIO SURVEY, GRANDVIEW HEIGHTS INTERIM, OHIO	400	100	100
FDP	CENTRAL OHIO SURVEY, OH	4,035	435	435
FDP	MIAMI RIVER, LITTLE MIAMI RIVER, & MILL CREEK BASINS, OH	4,408	50	50
FDP	MUSKINGUM RIVER BASIN, WOLF CREEK & TUSCARWAS RIVER, OH	600	100	100
FDP	SANDUSKY RIVER, OH	965	125	125
FDP	VERMILION RIVER, OH	470	190	190
	STATE SUB-TOTAL	10,878	1,000	1,000

CAPABILITIES FOR STUDIES UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
OKLAHOMA				
COM	ARK RIV & TRIBS, SOUTH CENTRAL & SOUTHEAST AREAS OF OK (COMP)	2,000	600	750
FDP	CANADIAN RIVER AND TRIBS, OK, TX & NM	2,760	155	155
N	CENTRAL OKLAHOMA PROJECT, OK	2,570	150	490
SPE	HUGO LAKE, OKLAHOMA HYDROPOWER STUDY	740	229	229
FDP	LUKFATA LAKE, OKLAHOMA (HYDROPOWER STUDY)	830	0	55
SPE	PINE CREEK LAKE, OKLAHOMA (HYDROPOWER STUDY)	690	0	30
COM	RED RIV BASIN, AR, TX, LA & OK (COMP)	3,100	800	1,150
	STATE SUB-TOTAL	12,690	1,934	2,859
OREGON				
N	ROGUE RIVER AT GOLD BEACH, OR	875	0	90
FDP	UMPQUA RIVER & TRIBUTARIES, OR	2,286	565	755
COM	WILLAMETTE RIVER BASIN, OR	3,725	378	378
	STATE SUB-TOTAL	6,886	943	1,223
PENNSYLVANIA				
FDP	LEHIGH RIVER BASIN, PA	1,985	150	150
	STATE SUB-TOTAL	1,985	150	150
PUERTO RICO				
FDP	ARECIBO RIVER, PR	370	100	100
FDP	GUANAJIBO RIVER, PR	884	255	255
FDP	RIO GRANDE DE LOIZA, PR	911	208	208
	STATE SUB-TOTAL	2,165	563	563
SOUTH CAROLINA				
FDP	GILLS CREEK, SC	1,824	116	116
FDP	LYNCHES RIVER, SC & NC	785	0	60
SP	MYRTLE BEACH, SC	806	0	200
FDP	SUGAR CREEK BASIN, NC & SC	1,411	0	200
	STATE SUB-TOTAL	4,826	116	576
SOUTH DAKOTA				
FDP	MISSOURI RIVER, SD, NE, ND, & MT	7,743	618	618
	STATE SUB-TOTAL	7,743	618	618
TENNESSEE				
FDP	METROPOLITAN REGION OF NASHVILLE, TN	4,632	300	300
	STATE SUB-TOTAL	4,632	300	300
TEXAS				
FDP	BRAZOS RIVER AND TRIBUTARIES, TX	8,070	200	200
FDP	BUFFALO BAYOU & TRIBUTARIES, TX	6,680	302	302
FDP	CAMERON COUNTY, TX	495	75	75
FDP	COLORADO RIVER AND TRIBUTARIES, TX	5,600	300	300
FDP	DICKINSON BAYOU, TX	1,130	255	255
FDP	HILLEBRANDT BAYOU & TRIBUTARIES, TX	623	50	50
FDP	LITTLE CYPRESS CREEK, TX & LA	1,750	150	150
FDP	LITTLE FOSSIL CREEK, TX	513	225	225
FDP	SAN JACINTO RIVER & TRIBUTARIES, TX	3,330	250	250
	STATE SUB-TOTAL	28,191	1,807	1,807
UTAH				
FDP	COLORADO RIVER & TRIBUTARIES ABOVE LEE FERRY, UT,AZ,CO,NM,WY	2,575	0	150
FDP	GREAT SALT LAKE, UT	1,250	150	150
FDP	JORDAN RIVER BASIN, UT	2,670	200	325
	STATE SUB-TOTAL	6,495	350	625

CAPABILITIES FOR STUDIES UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
VIRGINIA				
FDP	ROANOKE RIVER, UPPER BASIN, VA..........	3,110	500	500
	STATE SUB-TOTAL	3,110	500	500
WASHINGTON				
FDP	CHEHALIS RIVER AND TRIBUTARIES, WA......	2,931	94	94
RCP	LOWER SNAKE RIVER ENHANCEMENT PLAN, ID, OR & WA..............................	1,211	0	250
FDP	MILL CREEK WA............................	900	260	260
COM	PUGET SOUND AND ADJACENT WATERS, WA.....	8,383	351	382
N	SEATTLE HARBOR - DUWAMISH WATERWAY, WA..	3,612	0	150
N	SNOHOMISH RIVER & TRIBS, WA..........	964	0	100
FDP	YAKIMA VALLEY REGIONAL WATER MANAGEMENT, WA..................................	2,003	0	300
	STATE SUB-TOTAL	20,004	705	1,536
WEST VIRGINIA				
N	BIG SANDY RIVER, WV, KY & VA	3,912	165	165
N	KANAWHA RIVER, WV........................	5,225	650	650
COM	KANAWHA BASIN COMPREHENSIVE .... (AUTHORIZATION REPORTS), WV,VA & NC...	5,304	175	475
	STATE SUB-TOTAL	14,441	990	1,290
	NATIONAL TOTAL	477,846	48,353	57,262

CAPABILITIES FOR CONTINUING CP&E

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ARKANSAS				
FDP	NORTH LITTLE ROCK, AR (DARK HOLLOW)	540	75	150
N	WHITE RIVER NAVIGATION-MOUTH TO BATESVILLE, AR	1,500	0	450
	STATE SUB-TOTAL	2,040	75	600
CALIFORNIA				
FC	CACHE CREEK BASIN, CA	2,300	500	500
FDP	GUADALUPE RIVER, CA	1,500	750	750
N	OAKLAND INNER HARBOR, CA	820	415	415
FC	SANTA ANA RIVER, CA (CP&E)	17,300	3,500	3,500
	STATE SUB-TOTAL	21,920	5,165	5,165
COLORADO				
FDP	WESTERLY CREEK, CO	490	240	240
	STATE SUB-TOTAL	490	240	240
FLORIDA				
N	FT.PIERCE HARBOR, FL	200	90	90
	STATE SUB-TOTAL	200	90	90
ILLINOIS				
N	LOCKS AND DAMS 52 & 53 KY (REPLACEMENT STRUCT)	7,500	1,500	2,500
FDP	LOVES PARK, IL	1,505	490	490
	STATE SUB-TOTAL	9,005	1,990	2,990
INDIANA				
FDP	LITTLE CALUMET RIVER, IN	1,400	273	273
	STATE SUB-TOTAL	1,400	273	273
MARYLAND				
FC	ATLANTIC COAST OF MARYLAND & ASSATEAGUE ISLAND, VIRGINIA	1,800	500	1,050
	STATE SUB-TOTAL	1,800	500	1,050
MASSACHUSETTS				
FC	MASSACHUSETTS COASTAL, ROUGHANS POINT, REVERE, MA	905	300	300
	STATE SUB-TOTAL	905	300	300
MISSISSIPPI				
FC	PEARL RIVER BASIN SHOCCOE DAM, MS	2,800	1,000	1,000
	STATE SUB-TOTAL	2,800	1,000	1,000
MISSOURI				
FC	BRUSH CREEK, KANSAS CITY, MO	775	425	425
FC	MALINE CREEK, MO	2,500	465	465
	STATE SUB-TOTAL	3,275	890	890
NEW JERSEY				
FC	RAHWAY RIVER BASIN, ROBINSONS BRANCH, CITY OF RAHWAY, NJ	850	35	35
FC	RAMAPO AND MAHWAH RIVERS, NJ & NY	470	170	170
FC	RARITAN RIVER BASIN, GREEN BROOK SUB-BASIN, NJ	5,000	1,370	1,800
	STATE SUB-TOTAL	6,320	1,575	2,005
NEW MEXICO				
FDP	MID RIO GRANDE - (FDP) BERNALILLO TO BELEN, NM	2,460	475	475
	STATE SUB-TOTAL	2,460	475	475

CAPABILITIES FOR CONTINUING CP&E

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
NEW YORK				
N	ARTHUR KILL CHANNEL, HOWLAND HOOK MARINE TERMINAL, NY	900	500	700
FC	WESTCHESTER CTY STREAMS, MAMARONECK & SHELDRAKE RIVERS, NY	2,640	350	350
	STATE SUB-TOTAL	3,540	850	1,050
NORTH CAROLINA				
N	WILMINGTON HARBOR NE CAPE FEAR RIVER, NC (CP&E)	409	250	250
	STATE SUB-TOTAL	409	250	250
OHIO				
FC	HOLES CREEK AT WEST CARROLTON AND MORAINE, OH	570	250	250
	STATE SUB-TOTAL	570	250	250
OKLAHOMA				
FDP	MINGO CREEK, OKLAHOMA	1,860	423	423
	STATE SUB-TOTAL	1,860	423	423
PENNSYLVANIA				
FC	LOCK HAVEN, PA (PHASE I)	2,315	200	490
FC	SUSQUEHANNA BASIN AT HARRISBURG, PENNSYLVANIA	2,900	540	540
FC	WYOMING VALLEY, PA (PHASE I)	5,700	1,600	1,600
	STATE SUB-TOTAL	10,915	2,340	2,630
TEXAS				
N	BRAZOS ISLAND HARBOR (42 FOOT PROJECT), TX	1,170	300	300
FDP	SIMS BAYOU AT HOUSTON, TX	2,070	745	745
N	TEXAS CITY CHANNEL, TX	1,570	800	800
FDP	UPPER WHITE OAK BAYOU, & TRIBS., VICINITY OF HOUSTON TX	3,700	745	745
	STATE SUB-TOTAL	8,510	2,590	2,590
VIRGINIA				
FC	ROANOKE RIVER UPPER BASIN, VIRGINIA HEADWATERS AREA (CP&E)	900	480	480
BE	VIRGINIA BEACH, VA	2,200	900	900
	STATE SUB-TOTAL	3,100	1,380	1,380
WASHINGTON				
FC	CHEHALIS RIVER AT SOUTH ABERDEEN AND COSMOPOLIS, WA	1,097	147	147
N	EAST, WEST, AND DUWAMISH WATERWAYS, SEATTLE HARBOR, WA	2,910	750	750
N	GRAYS HARBOR, CHEHALIS & HOQUIAM RIVERS, WA	3,860	770	770
	STATE SUB-TOTAL	7,867	1,667	1,567
	NATIONAL TOTAL	89,386	22,323	25,318

CAPABILITIES FOR AE&D PROJECTS UNDERWAY
(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
CALIFORNIA				
N	NOYO RIVER AND HARBOR (BREAKWATER), CA..	6,900	0	450
N	NOYO RIVER AND HARBOR (CHANNEL EXTENSION), CA.	2,100	0	130
	STATE SUB-TOTAL	9,000	0	580
DIST OF COLUMBIA				
FC	WASHINGTON, DC & VICINITY	11,000	485	780
	STATE SUB-TOTAL	11,000	485	780
KANSAS				
FC	DOUGLASS LAKE, KS	84,500	265	265
	STATE SUB-TOTAL	84,500	265	265
MINNESOTA				
FC	EAST GRAND FORKS, MN	21,800	512	512
FC	TWIN VALLEY LAKE, WILD RICE RIVER, MN	19,400	138	138
	STATE SUB-TOTAL	41,200	650	650
MISSOURI				
FC	HANNIBAL, MO	4,590	124	124
	STATE SUB-TOTAL	4,590	124	124
NEW MEXICO				
FC	ALAMOGORDO DIVERSION CHANNEL, NM	13,600	330	330
FC	RIO GRANDE FLOODWAY (TRUTH OR CONSEQUENCES UNIT), NM	10,400	200	200
	STATE SUB-TOTAL	24,000	530	530
NEW YORK				
FC	SAW MILL RIVER AT ELMSFORD & GREENBURGH, NY	4,500	50	50
N	SHINNECOCK INLET, NY	8,370	200	200
FC	SOUTH ELLENVILLE, NY	8,120	0	100
	STATE SUB-TOTAL	20,990	250	350
NORTH DAKOTA				
FC	SHEYENNE RIVER, ND	19,300	695	695
	STATE SUB-TOTAL	19,300	695	695
OREGON				
FC	PENINSULA DRAINAGE DISTRICT NO. 2, OR	3,470	0	320
	STATE SUB-TOTAL	3,470	0	320
PENNSYLVANIA				
FC	PROMPTON LAKE (MODIFICATION), PA	43,300	1,000	1,250
	STATE SUB-TOTAL	43,300	1,000	1,250
RHODE ISLAND				
N	BRISTOL HARBOR, RI	2,840	40	40
	STATE SUB-TOTAL	2,840	40	40
TEXAS				
MP	ROCKLAND LAKE, TX	767,000	450	450
MP	TRINITY RIVER PROJECT TX	163,000	200	200
	STATE SUB-TOTAL	930,000	650	650
WASHINGTON				
FC	WENATCHEE CANYONS 1&2, WA	43,600	0	400
	STATE SUB-TOTAL	43,600	0	400
	NATIONAL TOTAL	1,237,790	4,689	6,634

CAPABILITIES FOR CONSTRUCTION PROJECTS UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ALABAMA				
N	MOBILE HARBOR DEEPENING - AL	228,980	15,000	15,000
FC	TOMBIGBEE RIVER & TRIBUTARIES, MS & AL	50,000	4,900	4,900
N	WILLIAM BACON OLIVER LOCK & DAM REPLACEMENT, AL	130,000	21,000	21,000
	STATE SUB-TOTAL	408,980	40,900	40,900
ALASKA				
FC	CHENA RIVER LAKES, AK	209,000	7,000	7,000
MP	SNETTISHAM, AK	139,000	10,800	10,800
	STATE SUB-TOTAL	348,000	17,800	17,800
ARIZONA				
FC	PHOENIX, AZ & VICINITY INCLUDING NEW RIVER (STAGE 2 & REMAIN WK)	232,000	32,000	32,000
	STATE SUB-TOTAL	232,000	32,000	32,000
ARKANSAS				
N	MCCLELLAN-KERR ARK RVR NAVIGATION SYSTEM LOCKS & DAM, AR & OK	545,590	2,000	2,000
N	OUACHITA & BLACK RIVERS, AR & LA	272,000	7,880	7,880
	STATE SUB-TOTAL	817,590	9,880	9,880
CALIFORNIA				
FC	CORTE MADERA CREEK, CA	14,000	2,000	2,000
FC	DRY CREEK (WARM SPRINGS) LAKE AND CHANNEL, CA	343,000	11,000	11,000
FC	FAIRFIELD VICINITY STREAMS, CA	9,630	3,000	3,000
N	FISHERMAN'S WHARF AREA, CA	8,900	550	550
FC	LOWER SAN JOAQUIN RIVER, CA	18,576	1,500	1,500
FC	MERCED COUNTY STREAMS, CA	57,900	3,000	3,000
MP	NEW MELONES LAKE, CA	382,000	1,900	4,500
N	PORT HUENEME, CA	2,501	1,020	1,020
N	RICHMOND HARBOR, CA	19,300	8,000	8,000
FC	SACRAMENTO RIVER BANK PROTECTION PROJECT, CA	90,000	7,000	7,000
FC	SACRAMENTO RIVER & MAJOR AND MINOR TRIBUTARIES, CA	11,900	200	200
FC	SACRAMENTO RIVER FLOOD CONTROL PROJECT, CA	74,950	300	300
FC	SACRAMENTO RIVER, CHICO LANDING TO RED BLUFF, CA	30,000	600	600
N	SACRAMENTO RIVER DEEP WATER SHIP CHANNEL, CA	52,700	3,600	3,600
N	SAN FRAN BAY TO STOCKTON, CA (J.F. BALDWIN & STOCK. SHIP CHAN)	138,000	3,900	3,900
FC	SWEETWATER RIVER, CA	24,600	7,200	7,200
FC	WALNUT CREEK, CA	62,800	11,100	11,100
FC	WILDCAT & SAN PABLO CREEKS, CA	17,600	4,000	4,000
	STATE SUB-TOTAL	1,358,357	69,870	72,470
COLORADO				
FC	CHATFIELD LAKE, COLORADO	95,600	1,400	1,400
	STATE SUB-TOTAL	95,600	1,400	1,400
DELAWARE				
FC	DEL COAST BEACH EROSION CONTROL & HURRICANE PROT, DE	129,000	0	575
	STATE SUB-TOTAL	129,000	0	575
FLORIDA				
BE	BROWARD CO (REIMB), FL	18,300	4,000	4,000
N	CANAVERAL HARBOR, FL	26,300	3,100	3,100
FC	CENTRAL & SOUTHERN FLORIDA, FL	767,000	15,000	15,000
FC	DADE COUNTY, FL	48,600	2,000	2,000
FC	DADE COUNTY, FL (N OF HAULOVER BEACH PARK)	13,000	6,000	6,000
BE	DUVAL COUNTY, FL	16,000	3,200	3,200

CAPABILITIES FOR CONSTRUCTION PROJECTS UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
FC	FOUR RIVER BASINS, FL	187,000	1,200	1,200
BE	PALM BEACH C. (MARTIN TO LK WORTH, S. LK WORTH TO BROWARD), FL	10,900	1,700	1,700
BE	PINELLAS COUNTY, FL	19,100	1,600	1,600
N	TAMPA HARBOR-BRANCH CHANNELS, FL	42,800	7,400	7,400
	STATE SUB-TOTAL	1,149,200	45,200	45,200
GEORGIA				
MP	RICHARD B. RUSSELL DAM AND LAKE, GA AND SC	541,000	25,000	25,000
N	SAVANNAH HARBOR WIDENING, GA	8,235	3,200	3,200
BE	TYBEE ISLAND, GA	5,635	2,005	2,005
	STATE SUB-TOTAL	554,870	30,205	30,205
HAWAII				
FC	KAHOMA STREAM, HI	16,800	6,500	6,500
	STATE SUB-TOTAL	16,800	6,500	6,500
ILLINOIS				
FC	KASKASKIA ISLAND DRAINAGE AND LEVEE DISTRICT, IL	13,200	2,300	2,300
N	LOCKS & DAM NO. 26, IL & MO, SECOND LOCK	280,000	4,000	4,000
FC	MAUVAISE TERRE D&LD, IL	1,100	500	500
N	MISS. RIVER BTN OHIO & MO RIVERS (REGULATING WORKS), MO & IL	181,000	4,000	4,000
FC	ROCKFORD, ILLINOIS	10,140	950	950
N	SMITHLAND LOCKS AND DAM, IL, IN, & KY	275,800	486	486
	STATE SUB-TOTAL	761,240	12,236	12,236
INDIANA				
FC	EVANSVILLE, IN	49,800	4,500	4,500
	STATE SUB-TOTAL	49,800	4,500	4,500
IOWA				
FC	AMES LAKE, IOWA	56,100	250	250
FC	BETTENDORF, IOWA	14,500	1,618	1,618
MP	DES MOINES RECREATION RIVER AND GREENBELT, IOWA	4,750	350	350
FC	MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS, & MO	248,000	800	800
	STATE SUB-TOTAL	323,350	3,018	3,018
KENTUCKY				
FC	BIG SOUTH FORK NATIONAL RIVER & RECREATION AREA, KY&TN	103,522	9,000	9,000
FC	LEVISA & TUG FORKS OF BIG SANDY & CUMBERLAND RIVS, WV, VA & KY	247,000	22,500	26,800
FC	SOUTHWESTERN JEFFERSON COUNTY, KY	57,500	7,500	7,500
	STATE SUB-TOTAL	408,022	39,000	43,300
LOUISIANA				
FC	GRAND ISLE & VICINITY, LA	10,343	1,000	1,000
FC	LAKE PONTCHARTRAIN, LOUISIANA & VICINITY (HURRICANE PROTECTION)	511,000	16,000	16,000
FC	LAROSE TO GOLDEN MEADOW, LOUISIANA (HURRICANE PROTECTION)	64,000	3,500	4,500
N	MISS. RIVER, BATON ROUGE TO GULF OF MEXICO, LA	357,000	19,400	28,400
N	MISSISSIPPI RIVER SHIP CHANNEL GULF TO BATON ROUGE, LA	168,000	9,000	9,000
N	MISSISSIPPI RIVER-GULF OUTLET, LA	491,000	2,000	2,000
FC	NEW ORLEANS TO VENICE, LA (HURRICANE PROTECTION)	164,000	3,000	3,000
N	RED RIVER WATERWAY-MS RIVER TO SHREVEPORT, LA	1,582,000	38,000	39,000
	STATE SUB-TOTAL	3,347,343	91,900	102,900

CAPABILITIES FOR CONSTRUCTION PROJECTS UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
MAINE				
N	JONESPORT HARBOR, ME....................	8,850	4,700	4,700
	STATE SUB-TOTAL	8,850	4,700	4,700
MARYLAND				
N	BALTIMORE HARBOR & CHANNELS,MD & VA.....	174,000	54,000	54,000
N	BALTIMORE HARBOR & CHANNELS, MD.........	43,300	5,000	5,000
	STATE SUB-TOTAL	217,300	59,000	59,000
MINNESOTA				
FC	BASSETT CREEK, MN.......................	26,000	6,000	6,000
FC	MANKATO AND NORTH MANKATO, MN...........	95,200	8,800	8,800
	STATE SUB-TOTAL	121,200	14,800	14,800
MISSISSIPPI				
N	GULFPORT HARBOR - MS....................	36,900	800	800
FC	PEARL RIVER SLIDELL ST TAMMANY PARISH...	17,742	750	750
	STATE SUB-TOTAL	54,642	1,550	1,550
MISSOURI				
FC	BLUE RIVER CHANNEL, KANSAS CITY, ... MISSOURI..............................	141,000	6,000	6,000
MP	HARRY S TRUMAN DAM AND RESERVOIR, MO....	550,000	2,500	2,500
FC	LITTLE BLUE RIVER LAKES MISSOURI........	137,000	3,800	3,800
N	LOCK & DAM NO. 26, ALTON, IL & MO.......	748,000	85,000	85,000
FC	LONG BRANCH LAKE, MISSOURI..............	20,453	500	500
	STATE SUB-TOTAL	1,596,453	97,800	97,800
NEBRASKA				
FC	MISSOURI NATIONAL RECREATIONAL RIVER NE. & SD..................................	21,000	1,000	1,000
FC	PAPILLION CREEK AND TRIBUTARIES LAKES .. NE.....................................	48,000	2,000	2,000
	STATE SUB-TOTAL	69,000	3,000	3,000
NEW JERSEY				
N	BARNEGAT INLET, NJ......................	24,300	6,000	6,000
N	KILL VAN KULL AND NEWARK BAY CHANNELS, . NJ & NY................................	191,000	12,000	12,000
FC	LIBERTY STATE PARK, LEVEE AND SEAWALL, . NJ.....................................	19,000	5,000	5,000
N	NEW YORK HARBOR, COLLECTION AND REMOVAL. OF DRIFT, NY & NJ....................	50,800	4,600	4,600
FC	SEABRIGHT TO OCEAN TOWNSHIP, NJ.........	86,200	0	1,250
	STATE SUB-TOTAL	371,300	27,600	28,850
NEW YORK				
FC	ARDSLEY,NY..............................	4,430	2,000	2,000
FC	ELLICOTT CREEK, NY......................	13,500	3,000	3,000
N	MORICHES INLET, NY......................	5,000	2,500	2,500
N	PORT ONTARIO HARBOR, NY.................	2,760	800	800
	STATE SUB-TOTAL	25,690	8,300	8,300
NORTH CAROLINA				
FC	B. EVERETT JORDAN DAM AND LAKE, NC......	136,000	8,700	8,700
FC	CAROLINA BEACH AND VICINITY, NC.........	15,111	0	200
FC	FALLS LAKE, NC..........................	168,000	6,500	6,500
	STATE SUB-TOTAL	319,111	15,200	15,400
NORTH DAKOTA				
FC	LAKE DARLING, SOURIS RIVER, ND..........	59,200	2,000	2,000
	STATE SUB-TOTAL	59,200	2,000	2,000

CAPABILITIES FOR CONSTRUCTION PROJECTS UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
OHIO				
N	CLEVELAND HARBOR, Oh (COMM/REC NAV)	5,680	2,700	2,700
N	GENEVA ON THE LAKE, OH	4,610	1,500	1,500
FC	MILL CREEK, OH	156,000	15,000	15,000
FC	NEWARK, OHIO	9,600	2,500	2,500
	STATE SUB-TOTAL	175,890	21,700	21,700
OKLAHOMA				
FC	ARCADIA LAKE, OK	84,300	5,900	5,900
FC	COPAN LAKE, OK	89,242	0	1,250
MP	EUFAULA LAKE (BRIDGE REPLACEMENT), OK	122,727	0	390
FC	SARDIS LAKE, OK	65,928	0	7,700
	STATE SUB-TOTAL	362,197	5,900	15,240
OREGON				
N	BONNEVILLE NAVIGATION LOCK, OR & WA	203,000	20,000	20,000
MP	BONNEVILLE SECOND POWERHOUSE, OR & WA	663,000	7,500	7,500
FC	LOWER COLUMBIA RIVER BASIN BANK PROTECTION, OR & WA	25,400	1,500	1,500
FC	WILLAMETTE RIVER BASIN BANK PROTECTION, OR	29,800	1,500	1,500
	STATE SUB-TOTAL	921,200	30,500	30,500
PENNSYLVANIA				
FC	COWANESQUE LAKE, PA (MOD)	2,690	470	470
N	GRAYS LANDING LOCK AND DAM (LOCK AND DAM #7), PA	121,000	670	4,200
N	POINT MARION LOCK AND DAM (LOCK AND DAM #8), PA AND WV	70,100	730	730
BE	PRESQUE ISLE, PA (NOURISHMENT)	16,291	1,210	1,210
FC	TURTLE CREEK,PA	17,651	300	300
	STATE SUB-TOTAL	227,732	3,380	6,910
PUERTO RICO				
FC	PORTUGUES & BUCANA RIVERS, PR	317,000	31,000	31,000
	STATE SUB-TOTAL	317,000	31,000	31,000
TEXAS				
FC	CLEAR CREEK, TX	78,141	8,200	8,200
FC	COLORADO RIVER & TRIBS,BOGGY CREEK AT AUSTIN, TX	15,800	900	900
FC	COOPER LAKE AND CHANNELS, TX	140,000	3,700	6,800
N	CORPUS CHRISTI SHIP CHANNEL, TX (1968 ACT)	58,500	7,000	7,000
FC	EL PASO, TX	72,700	500	500
N	FREEPORT HARBOR,TX (1970 ACT)	70,153	9,900	9,900
FC	JOE POOL LAKE, TX	190,000	9,700	9,700
N	MOUTH OF COLORADO RIVER, TX	29,600	4,700	4,700
FC	RAY ROBERTS LAKE, TX	282,000	34,000	34,000
FC	SAN ANTONIO CHANNEL IMPROVEMENT, TX	87,300	11,600	11,600
FC	SAN GABRIEL RIVER, TX	160,000	600	600
FC	TAYLORS BAYOU, TX	52,700	8,600	8,600
FC	VINCE AND LITTLE VINCE BAYOUS, TX	19,600	2,800	2,800
N	WALLISVILLE LAKE, TX	67,700	0	100
	STATE SUB-TOTAL	1,324,194	102,200	105,400
UTAH				
FC	LITTLE DELL LAKE, UT	50,300	2,900	2,900
	STATE SUB-TOTAL	50,300	2,900	2,900
VIRGINIA				
N	NORFOLK HARBOR, DEEPENING, VA	241,000	10,000	10,000
FC	RICHMOND LOCAL PROTECTION, VA	72,200	1,200	1,200
BE	VIRGINIA BEACH, VA (1962 MODIFICATION) (REIMB)	5,500	530	530
FC	VIRGINIA BEACH STREAMS, CANAL #2, VA	4,600	2,200	2,200
	STATE SUB-TOTAL	323,300	13,930	13,930

CAPABILITIES FOR CONSTRUCTION PROJECTS UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
WASHINGTON				
MP	CHIEF JOSEPH ADDITIONAL UNITS, WA........	387,000	6,000	6,000
MP	LOWER SNAKE RIVER FISH & WILDLIFE ...... COMPENSATION, WA, OR&ID..............	177,000	14,000	15,500
FC	MT. ST. HELENS AND VICINITY, WA.	51,558	10,000	10,000
	STATE SUB-TOTAL	615,558	30,000	31,500
WEST VIRGINIA				
N	GALLIPOLIS L&D REPLACEMENT, OHIO RIVER,. WV & OH................................	353,000	7,000	7,000
FC	R D BAILEY LAKE, WV......................	250,000	33,000	33,000
FC	STONEWALL JACKSON LAKE W VA.............	206,000	26,000	26,000
N	WINFIELD LOCKS AND DAM, KANAWHA RIVER, . WV..	128,000	1,750	1,750
	STATE SUB-TOTAL	937,000	67,750	67,750
WISCONSIN				
MP	UPPER MISS RVR SYSTEM ENVIR MGMT .... PROGRAM..................................	196,000	1,000	1,000
	STATE SUB-TOTAL	196,000	1,000	1,000
	NATIONAL TOTAL	18,293,269	948,619	986,114

CAPABILITIES FOR MAJOR REHABILITATION & DAM SAFETY ASSURANCE PROJECTS UNDERWAY

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
CALIFORNIA				
MR	LOS ANGELES COUNTY DRAINAGE AREA, CA . . (MAJOR REHABILITATION)................	29,700	8,900	8,900
	STATE SUB-TOTAL	29,700	8,900	8,900
ILLINOIS				
N	BRANDON ROAD L/D (REHAB), ILLINOIS......	24,400	5,470	5,470
N	LOCKS AND DAM 53, IL & KY (MAJOR REHAB).	9,240	1,700	1,700
	STATE SUB-TOTAL	33,640	7,170	7,170
KENTUCKY				
MP	BARKLEY DAM SAFETY ASSURANCE, KY........	16,200	3,000	3,000
	STATE SUB-TOTAL	16,200	3,000	3,000
NEW MEXICO				
FC	JEMEZ CANYON DAM, NM (DAM SAFETY).......	3,060	2,060	2,060
	STATE SUB-TOTAL	3,060	2,060	2,060
OHIO				
FC	MUSKINGUM RIVER LAKES, OH (MAJOR REHAB).	24,900	2,500	2,500
	STATE SUB-TOTAL	24,900	2,500	2,500
PENNSYLVANIA				
N	MONTGOMERY LOCKS AND DAM OHIO RIVER, PA. (MAJOR REHAB)........................	33,200	8,300	8,300
	STATE SUB-TOTAL	33,200	8,300	8,300
TEXAS				
FC	BUFFALO BAYOU & TRIBS. (ADDICKS & ...... BARKER) (DAM SAFETY)................	14,600	4,900	4,900
	STATE SUB-TOTAL	14,600	4,900	4,900
WASHINGTON				
FC	MUD MOUNTAIN DAM, WA (DAM SAFETY .... ASSURANCE)..........................	23,800	4,000	4,000
	STATE SUB-TOTAL	23,800	4,000	4,000
	NATIONAL TOTAL	179,100	40,830	40,830

CAPABILITIES FOR STUDIES UNDERWAY
MISSISSIPPI RIVER & TRIBUTARIES

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ARKANSAS				
FDP	BOEUF-TENSAS BASIN SOUTH AR-NORTH LA	6,540	950	950
FDP	EASTERN ARKANSAS REGION COMPREHENSIVE STUDY, AR	2,350	700	700
FDP	ST. FRANCIS RIVER, MO & AR (FISH & WILDLIFE)	975	0	360
	STATE SUB-TOTAL	9,865	1,650	2,010
KENTUCKY				
FDP	BAYOU DU CHIEN, KY	995	243	243
FDP	MISSISSIPPI RIVER - EAST BANK LEVEES, KY & TN	1,150	0	260
FDP	OBION AND FORKED DEER RIVERS AND TRIBUTARIES, TN & KY	1,555	0	400
	STATE SUB-TOTAL	3,700	243	903
LOUISIANA				
FDP	ATCHAFALAYA BASIN (WATER & LAND RESOURCES), LA	6,551	170	170
FDP	LARTO LAKE - SALINE LAKE AREA, LA	1,410	116	216
	STATE SUB-TOTAL	7,961	286	386
MISSISSIPPI				
FDP	MISS RIV, EAST BANK, VICKSBURG - YAZOO AREA, MS (PHASE I)	380	0	150
FDP	YAZOO RIVER BASIN MS	8,880	500	500
	STATE SUB-TOTAL	9,260	500	650
TENNESSEE				
FDP	REELFOOT LAKE, TN	990	260	260
FDP	TIPTONVILLE, TN	355	105	105
	STATE SUB-TOTAL	1,345	365	365
	NATIONAL TOTAL	32,131	3,044	4,314

CAPABILITIES FOR CONTINUING CP&E
MISSISSIPPI RIVER & TRIBUTARIES

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
LOUISIANA				
FC	BUSHLEY BAYOU AREA LA....................	975	150	150
FC	MISSISSIPPI & LOUISIANA ESTUARINE AREAS, LA & MS...............................	3,900	780	1,100
	STATE SUB-TOTAL	4,375	930	1,250
MISSISSIPPI				
FDP	MISS RIVER, EAST BANK, NATCHEZ AREA, MS.	625	0	100
	STATE SUB-TOTAL	625	0	100
MISSOURI				
FC	ST JOHNS BAYOU AND NEW MADRID FLOODWAY . MO..............................	2,800	428	428
	STATE SUB-TOTAL	2,800	428	428
TENNESSEE				
FC	NONCONNAH CREEK, TN & MS....	1,300	800	800
	STATE SUB-TOTAL	1,300	800	800
	NATIONAL TOTAL	9,600	2,158	2,578

CAPABILITIES FOR CONSTRUCTION PROJECTS UNDERWAY
MISSISSIPPI RIVER & TRIBUTARIES

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
ARKANSAS				
FC	EIGHT MILE CREEK, AR	7,570	350	350
FC	MISSISSIPPI RIVER LEVEES, AR, IL, KY, LA, MS, MO & TN	1,229,000	21,700	24,200
FC	ST. FRANCIS BASIN, ST. FRANCIS RIVER & TRIBS	293,683	8,430	10,680
FC	ST. FRANCIS BASIN, LITTLE RIVER DRAINAGE	57,332	770	1,070
FC	TENSAS BASIN, LAKE CHICOT PUMPING PLANT, AR	92,300	815	815
	STATE SUB-TOTAL	1,679,885	32,065	37,115
KENTUCKY				
FC	WEST KENTUCKY TRIBUTARIES, KY	20,955	100	100
	STATE SUB-TOTAL	20,955	100	100
LOUISIANA				
FC	ATCHAFALAYA BASIN, LA	1,433,000	35,600	35,600
(FC	ATCHAFALAYA BASIN FLOODWAY SYSTEM	131,675	970	970
FC	BAYOU COCODRIE AND TRIBUTARIES, LA	19,839	75	75
FC	CHANNEL IMPROVEMENT, DIKES	605,665	7,500	21,700
FC	CHANNEL IMPROVEMENT, DREDGING	223,645	0	2,000
FC	CHANNEL IMPROVEMENT, REVETMENTS & FORESHORE	2,180,690	67,600	69,300
FC	OLD RIVER, LA	301,300	14,829	14,829
FC	TENSAS BASIN, TENSAS-COCODRIE PUMPING STATION, LA	54,400	1,500	1,500
FC	TENSAS BASIN, BOEUF & TENSAS RIVERS, LA	33,232	560	560
FC	TENSAS BASIN, RED RIVER BACKWATER AREA, LA	163,775	2,725	2,725
	STATE SUB-TOTAL	5,247,421	131,359	149,259
MISSISSIPPI				
FC	YAZOO BASIN, BIG SUNFLOWER RIVER (INCL STEELE BAYOU BASIN)	108,000	2,800	2,800
FC	YAZOO BASIN, MAIN STEM	169,000	2,100	2,100
FC	YAZOO BASIN, TRIBS - ALL EXCEPT ASCALMORE-TIPPO & OPPOSSUM BAYOU	204,100	3,600	3,600
FC	YAZOO BASIN, UPPER YAZOO PROJECTS	361,958	14,200	14,200
FC	YAZOO BASIN, YAZOO BACKWATER	234,500	1,100	1,100
FC	YAZOO BASIN, TRIBS - ASCALMORE-TIPPO & OPOSSUM BAYOUS	37,900	200	200
	STATE SUB-TOTAL	1,115,458	24,000	24,000
TENNESSEE				
FC	WEST TENNESSEE TRIBUTARIES TN	104,000	5,500	8,585
	STATE SUB-TOTAL	104,000	5,500	8,585
	NATIONAL TOTAL	8,167,719	193,024	219,059

CAPABILITIES FOR MAJOR REHABILITATION & DAM SAFETY ASSURANCE PROJECTS UNDERWAY
MISSISSIPPI RIVER & TRIBUTARIES

(AMOUNTS IN THOUSANDS)

TYPE	PROJECT OR SURVEY	ESTIMATED FEDERAL COST	FY 1987 APPROVED BUDGET	FY 1987 CAPABILITY
MISSISSIPPI				
FC	SARDIS DAM, MS	9,000	3,500	3,500
	STATE SUB-TOTAL	9,000	3,500	3,500
	NATIONAL TOTAL	9,000	3,500	3,500

S-060

HOPPER DREDGING EXPERIENCE

Chairman HATFIELD. Provide for the record a tabulation, similar to that provided last year, showing your Hopper Dredge bid experience.

General HEIBERG. I will furnish a listing of Hopper Dredge Bid Openings for FY 1985.

(The information follows:)

PROJECT	STATE	CU YD MAINT.	LOW BID	GOVERNMENT ESTIMATE	NO. BIDS	%
SAVANNAH HBR	GA	1,040,000	$1,785,953	$2,459,130	3	73%
MOREHEAD CITY HBR	NC	700,000	$758,900	$1,280,685	3	59%
MANTEO SHALLOWBAG	NC	400,000	$965,000	$1,009,391	2	96%
J.F. BALDWIN SHIP CHANNEL	CA	3,300,000	$4,420,000	$7,450,000	6	59%
HUMBOLDT ENTRANCE CHNL	CA	600,000	$560,000	$925,772	2	60%
HUMBOLDT HARBOR & BAY	CA	785,000	$1,620,000	$1,326,920	2	122%
FREEPORT HBR	TX	1,000,000	$880,000	$2,420,000	4	36%
CHARLESTON ENTRANCE CHNL	SC	426,000	$895,400	$1,563,200	2	57%
CANAVERAL CUT-1A (RFP)	FL	685,000	$1,481,750	$1,986,757	6	75%
CHARLOTTE HBR	FL	674,800	$1,885,100	$2,922,675	4	64%
DUVAL CTY BEACH NOUR	FL	600,000	$5,384,690	$4,487,217	3	120%
SAN JUAN HBR	PR	1,500,000	$2,645,500	$5,016,584	7	53%
CANAVERAL HR ENTR.CHNL	FL	370,000	$692,000	$1,881,588	7	37%
ST AUGUSTINE HBR	FL	142,000	$386,000	$1,079,936	3	36%
MOBILE HARBOR	AL	100,000	$558,157	$600,000	1	93%
COOS BAY ENT CHNL	OR	1,000,000	$1,730,000	$1,711,500	2	101%
YAQUINA BAY & HBR	OR	400,000	$725,000	$601,000	2	121%
COLUMBIA RIVER	OR	1,500,000	$2,140,000	$2,268,653	3	94%
HYANNIS HARBOR	MA	27,000	$237,870	$200,610	5	119%
MIANUS RIVER	CT	47,000	$307,500	$350,000	4	88%
COLUMBIA RIVER	OR	500,000	$694,000	$648,000	2	107%
GRAYS HARBOR	WA	1,400,000	$2,681,000	$3,280,700	4	82%
SANDUSKY HARBOR	OH	200,000	$787,500	$496,250	2	159%
ST. CLAIR RIVER	MI	89,900	$443,170	$551,502	2	80%
DETROIT RIVER	MI	464,400	$2,919,012	$2,404,812	2	121%
ROCHESTER HBR	NY	100,000	$1,550,500	$1,419,000	2	109%
SAGINAW RIVER	MI	258,800	$1,736,675	$1,508,669	1	115%
CALCASIEU RIVER	LA	5,000,000	$959,040	$2,867,020	4	33%
MISSISSIPPI RIVER	LA	3,900,000	$1,599,500	$3,971,000	4	40%
JAMAICA BAY	NY	184,429	$1,249,791	$1,379,591	3	91%
CHINCOTEAGUE INLET	VA	110,000	$839,000	$763,811	1	110%
TOLEDO HBR(INNER)	OH	350,000	$1,550,500	$1,419,000	2	109%
CALCASIEU RIVER BAR CHNL	LA	3,700,000	$1,897,350	$2,058,860	4	92%
MISSISSIPPI RIVER	LA	3,000,000	$2,479,080	$3,267,100	4	76%
MISSISSIPPI RIVER	LA	2,000,000	$1,326,000	$1,432,140	4	93%
TOTAL		36,554,329	$52,770,938	$69,009,073	112	76%

% PERCENT LOW BID OF GOVERNMENT ESTIMATE

WATER SUPPLY STORAGE—COST REALLOCATION

Chairman HATFIELD. In action on the 1986 Energy and Water Appropriations Bill, the Congress clearly expressed its intent regarding the pricing policies relative to the reallocation to water supply use of storage at existing Federal reservoirs. The basic policy set forth in the Appropriations Bill was that: (1) repayment was to be based on the original construction cost of that portion reallocated to water supply, (2) interest was from the date of construction to the date of reallocation, and (3) the interest rate was determined by the year in which original project construction was initiated.

Are you complying with this Congressional direction? If not, why? How does your policy differ from that stated above? What is the legal basis of your decision not to comply with the Congressional intent?

Mr. DAWSON. We believe that application of the reallocation procedures that have been in effect for the past 11 years constitute the best approach to calculating charges for water supply storage that has been reallocated from other project purposes. The Department of the Army will comply with any directive that is enacted into law and requires us to charge for reallocated storage in the manner described. However, it is important to draw a distinction between provisions that are found in an appropriation act and provisions that are found in accompanying Committee reports. It is our hope that the Committee and the Congress will carefully consider the impacts of such an action before placing such a provision into law.

The present Department of the Army procedure for reallocating space in existing projects is as follows:

The cost allocated to the local interest is established as the highest of benefits or revenues foregone, or the cost of storage in the Federal project updated to account for inflation that has occurred. In the updating method, the construction cost of the project is updated from the midpoint of the physical construction period to the beginning of the fiscal year in which the contract for the reallocated storage is approved by use of the Engineering News Record Construction Index. If costs are to be repaid over time, the interest utilized is the water supply rate current at the time of contract approval. All new construction costs associated with the modification and allocated to water supply are to be paid during the construction period of the modification. Local interests will also be responsible for the share of specific and joint use operation, maintenance, replacement, and rehabilitation costs allocated to the new storage space.

We believe the policy expressed by the Committee is undesirable for the following reasons.

Removal of the updating policy would result in large Federal subsidies for municipal and industrial water supplies in some older reservoirs. Even with the updating policy in place, reallocations of storage to water supply normally result in prices that are very inexpensive relative to the least cost alternative source. Thus, prices calculated under current procedures are far less than "market prices" and further reductions clearly are unwarranted.

Removal of the updating policy would result in inequities among reservoirs. Customers receiving water from older reservoirs would receive large subsidies, whereas customers receiving water from newer reservoirs would not.

Removal of the updating policy would lead to waste of a valuable commodity. Pricing of water far below its cost and even farther below its value discourages conservation and encourages waste.

Removal of the updating policy would exacerbate conflicts among competing users. Conflicts among hydropower, flood control, and water supply proponents have been severe during several recent reallocation proposals. These would become more common and more severe under the proposed amendment.

Removal of the updating policy would make reallocation of storage to water supply un~~der the au~~thority afforded the Secretary of the Army in the 1958 Water Supply Act more difficult. Such reallocation are made only when the prices of reallocated storage exceed benefits or revenues foregone due to the reallocation. The restriction on price contained in the proposed amendment would cause recent reallocations at Lake Texoma and Lake Waco not to occur under the Secretary's discretionary authority in the Water Supply Act. The only alternatives available to the water users under such a scenario would be to seek Congressional approval of such reallocations (difficult in the face of opposition from hydropower and flood control interests), or to develop the much more expensive, least cost effective alternative sources of water.

Limiting charges to original project costs could prevent recovery of the cost of modifications (e.g. relocation of recreation facilities) required by the reallocation of storage.

CHIEF JOSEPH ADDITIONAL UNITS

Chairman HATFIELD. Last year, the Congress deferred $660,000 of budgeted funding for correction of turbine deficiencies at the Chief Joseph project. Does the 1987 budget include any funds to initiate the deficiency correction work?

Mr. DAWSON. No, sir.

Chairman HATFIELD. What is the current status of negotiations with the contractor to resolve the problems surrounding turbine performance and what is the time table for resolving the total issue?

Mr. DAWSON. The turbines for the Chief Joseph Additional Units project failed to meet the contractor guaranteed efficiency of 92.5 percent by producing only 87.9 percent. On 27 January 1983, the contracting officer directed the contractor to correct the deficiency. The contractor offered a monetary settlement of $2.5 million instead which was considerably less than the cost of correcting the deficiency. This matter has not been resolved. On 29 January 1986 the contractor offered to renew negotiations and their current position is being evaluated.

IMPLICATIONS OF CORRECTIVE MEASURES

The power being lost as a result of the poor performance of the eleven hydraulic turbines supplied by the manufacturer at Chief Joseph Dam Additional Units Project amounts to 11.6 megawatts of average annual energy. The resulting estimated total economic loss to the government over the life of the units is $75,140,000.

Sir, I would like to provide some additional information for the record on this subject.

Chairman HATFIELD. Yes, that will be fine.

[The information follows:]

The average annual benefits forgone to the United States include:

Pacific Northwest System Production Cost	$ 400,000
Pacific Northwest System Capital Cost Displacement	1,300,000
Pacific Southwest System Production Cost Displacement	4,700,000
Replacement Cost Savings	160,000
TOTAL	$6,560,000

Based on the average annual costs for corrective measures of $2,661,000 and average annual benefits of $6,560,000, the benefit-to-cost ratio is 2.5 to 1, making these corrective measures a good economic investment.

Need for the power. The power derived by correcting the deficiencies would be used immediately to offset more expensive production costs elsewhere in the Pacific Northwest and Pacific Southwest systems. These immediate benefits are realized by using the increased hydro generation, at Chief Joseph to conserve oil and other thermal generation in the Pacific Northwest and Southwest regions. We also recognized that correcting the deficiencies would delay the need for capital investment to construct new and more expensive powerplants in the Pacific Northwest. However, no benefits are claimed for offsetting more costly capital investments until the late-1990's when the Pacific Northwest is predicted to have a deficit in energy resources.

Basis For Government Funding of Corrective Work. The corrective work is important to settlement of the contract dispute, as recovery from the contractor for corrective measures can only be based on the actual costs of corrective work rather than an estimate of what might be done. Recovery is diminished if not eleminated without obtaining the contractural performance and incurring the actual costs. Additionally, the proposed work would contribute average annual benefits in excess of the average annual costs, making the corrective work a sound investment that would reduce $75,140,000 of total economic losses to zero.

Description of Corrective Work. The proposed work would consist of replacing and modifying the existing turbine components for the eleven units. Newly designed runners would be installed and fitted to the existing stay rings and water passage requiring modification of the upper section of the draft tube liner. Model studies of the existing units would be conducted to determine the problems causing the deficiencies. Model studies of the proposed units would then be conducted to verify efficiencies.

Time Table and Cost of Work. Subject to the availability funds, correcting all eleven units is estimated to require six years and cost approximately $25.6 million. Following is a summary of the activities:

YEAR	WORK EFFORT	FUNDS REQUIRED ($000)
1	Prepare and award contract; Initiate model studies.	$ 700
2	Complete model studies; Initiate turbine fabrication.	$2,700
3	Continue fabrication.	$5,300
4	Complete installation of Units 1, 2, and 3.	$7,800
5	Complete installation of Units 4 through 7.	$7,300
6	Complete installation of Units 8 through 11.	$1,800

OREGON WATER RESOURCE PROJECTS

BONNEVILLE NAVIGATION LOCK

Chairman HATFIELD. What is the current status of the Corps' detailed engineering and design, land acquisition, and relocation activities on the Bonneville Navigation Lock as provided for in P.L. 99–88, the Supplemental Appropriations Bill?

Mr. DAWSON. Detailed engineering and design activities are in progress, and is land acquisition associated with relocations are contained in the Union Pacific Railroad agreement which is expected to be consumated in April 1986. No other land acquisition is required. Relocations are scheduled to begin in June 1986.

Chairman HATFIELD. Please explain why the use of the $20.0 million requested is contingent upon enactment of legislation increasing the waterway fuel tax? Is the contingency based on legal grounds or is it merely a policy decision?

Mr. DAWSON. Use of the $20 million program request for FY 1987 is not legally contingent upon enactment of new legislation to increase the waterway fuel tax. However, the Adminisuration's willingness to proceed with these new starts is contingent upon realization of new cost sharing arrangements. For navigation projects, that requires legislation.

Chairman HATFIELD. Setting aside the issue of increased user fees, does the Corps have sufficient authority and funding to initiate lock construction after May 15, 1986? Are there any legal constraints to initiation of construction after May 15, 1986?

Mr. DAWSON. From a purely legal standpoint, initiation of construction, beyond relocation activities, could begin after May 15, 1986.

Chairman HATFIELD. What is the current status of necessary road, rail, and power substation relocations? Which of these is on the critical path for initiation of construction? When will the critical path relocations be completed so actual construction can begin?

Mr. DAWSON. Road, rail and substation relocations are currently under engineering and design. The railroad relocations are on the critical path and are currently scheduled to be started in June 1986 with completion in July 1987. This will allow initiation of lock excavations at that time.

Chairman HATFIELD. Does the Corps plan a single or multiple contract award for foundation and lock construction? If more than one contract, explain why? Would a single contract be more economic and efficient?

Mr. DAWSON. The Corps has informed me that they expect to award a single contract for lock construction, including the foundtion, in November 1988. However, the lock excavation contract is scheduled for award in July 1987. Excavation can proceed while final design, plans and specifications for the lock are being completed.

Chairman HATFIELD. Provide for the record a funding profile by fiscal year and the major project milestones through completion.

Mr. DAWSON. I will be glad to.

[The information follows:]

Bonneville Navigation Lock Program

[In thousands of dollars]

Fiscal year:	
1986	$8,000
1987	20,000
1988	47,000
1989	30,000
1990	47,000
1991	48,000
1992	3,000

One-half of these amounts are to be derived from the Inland Waterways Trust Fund.

Major project milestones

Initiate relocations	June 1986.
Initiate lock construction floating guide wall	December 1986.
Initiate lock excavations	July 1987.
Initiate lock construction	November 1988.
Complete project	April 1992.

ELK CREEK LAKE

Chairman HATFIELD. Explain why no funding is included in the 1987 budget particularly when the main dam contract was awarded in January?

Mr. DAWSON. Mr. Chairman, sufficient funds were provided from previous appropriations to fund all work at Elk Creek, including the main dam contract, through Fiscal Year 1987.

Chairman HATFIELD. Will follow-on funding be included in future Corps budget requests coming to Congress to complete the project?

Mr. DAWSON. I would rather not speculate on what will or will not be included in future budget requests.

Chairman HATFIELD. Can you provide for the record the estimated funding requirements by fiscal year through completion? Also include the current funding available and how it will be used by fiscal year.

Mr. DAWSON. Yes, of course.

[The information follows:]

ELK CREEK LAKE, OREGON

[In thousands of dollars]

	Appropriations	Expenditures
Total estimate	121,000	121,000
Through fiscal year 1985	21,867	16,604
Fiscal year:		
1986	[1] 33,000	16,582
1987	([2])	21,000
1988	42,000	[3] 42,681
1989	23,000	23,000
1990	1,133	1,333

[1] Includes $15,000,000 from FY 1985 Supplemental Appropriation Act and $18,000,000 from FY 1986 Appropriation Act.

[2] No new funds are required or requested in FY 1987. Sufficient funds to continue all project work through FY 1987 were appropriated in FY 1985 and FY 1986.

[3] Funds in the amount of $681,000 appropriated in FY 1986 are expected to be expended in FY 1988.

Chairman HATFIELD. What is the status of litigation surrounding this project, including any possible appeals?

Mr. DAWSON. The Oregon Natural Resources Council alleged that the environmental effects of the Elk Creek Lake Project were not adequately addressed in the Corps' original Environmental Impact Statement or in the Supplemental EIS. They also alleged that the project violates the Wild and Scenic Rivers Act. This case was heard in U.S. District Court on January 16, 1986; the court ruled against the plaintiffs. To date, we do not know if plaintiffs intend to appeal the decision.

Chairman HATFIELD. I understand the main dam contract has been awarded to a Japanese firm. Briefly, what regulations govern the awarding of contracts to foreign firms? Can a foreign company be denied the opportunity to bid on Corps of Engineers work? Under what conditions or grounds can they be disqualified?

Mr. DAWSON. The Elk Creek main dam contract was awarded on January 24, 1986 to Ohbayashi Corporation, a Japanese firm with an office in San Francisco, California. Its successful low bid was $62,782,658. There were five other bidders, with bids ranging from $67,823,143.99 to $73,531,890. The Government estimate was $54,923,909.50.

The fact that Ohbayashi Corporation is a Japanese firm did not prevent it from being eligible to compete for the award. This contract was advertised under the Federal Acquisition Regulation which does not restrict such work to domestic companies. The regulation defines contractor qualification applicability as ". . . all proposed contracts with any prospective contractor that is located— (1) In the United States, its possessions, or Puerto Rico; or (2) Elsewhere, unless application of the subpart would be inconsistent with the laws or customs where the contractor is located."

The regulation also provides that the contracting officer shall make a contract award ". . . to that responsible bidder whose bid, conforming to the invitation, will be most advantageous to the Government, considering only price and the price-related factors included in the invitation." The contracting officer made the determination that Ohbayashi Corporation was the responsive low bidder, and the award was made in accordance with the Federal Acquisition Regulation.

Chairman HATFIELD. Has this Japanese firm performed work for the Corps or the U.S. government in the past and has that work been acceptable?

Mr. DAWSON. Yes, it has. Ohbayashi Corporation has had many construction contracts in the United States; but only one contract so far with the Corps of Engineers. That contract was with the Albuquerque District for underground storage facilities costing approximately $15 million. The Corps indicated that contract performance ranged from good to excellent. Also, the Ohbayashi Corporation has constructed the Bureau of Reclamation's Strawberry Tunnel and Deloris Tunnel and Channel projects. The Bureau indicated they too were fully satisfied with the contractor's work.

The contractor has completed two roller compacted concrete projects, similar to Elk Creek, in Japan, during the late 1970's and early 1980's. Portland District engineers have visited those projects and affirm that the contractor is well experienced with the construction techniques required for Elk Creek Dam and should be fully capable of performing this work.

Chairman HATFIELD. Is it the conclusion of the Corps that the award of this contract to the Japanese firm was in the best interest of the Federal government?

Mr. DAWSON. Yes.

Chairman HATFIELD. Does the contract include any protection for local labor?

Mr. DAWSON. Yes, I understand it does.

Chairman HATFIELD. What level of local labor can be expected to be employed on the project?

Mr. DAWSON. Since the site of the construction work is located in an area determined by Secretary of Labor to be a Labor Surplus Area, the contract contains a Labor Surplus Expenditure Requirements clause which requires the contractor to incur aggregate costs of at least 50 percent of the price of the contract in a designated Labor Surplus Area. Due to the nature of the work, however, the Corps expects most of the labor to be from the local area.

Chairman HATFIELD. How many of the jobs created by the project do you expect to be filled by non-U.S. individuals?

Mr. DAWSON. The Corps expects little if any of the contractor's labor force to be foreign nationals. This judgment is based on Corps experience with this contractor on a prior contract. Each foreign employee would be required to have a work permit in this country.

Chairman HATFIELD. Similarly, are there any requirements to purchase domestic construction materials?

Mr. DAWSON. Yes, there are such requirements. The Buy American Act clause is part of the contract and requires the contractor, his subcontractors and suppliers to use only domestic construction materials in the performance of the contract.

Chairman HATFIELD. What is the total estimated cost of the project and how much is expected to be spent on domestic goods and services?

Mr. DAWSON. The total estimated cost of the project is $121 million, essentially all of which will be spent on domestic goods and services.

JOHN DAY LOCK AND DAM

Chairman HATFIELD. Do you anticipate any problem in completing the John Day Lock and Dam project with the $6,358,000 appropriated for the current year?

Mr. DAWSON. No, we do not.

Chairman HATFIELD. The budget includes $3.9 million to continue major rehabilitation of the John Day powerhouse. Does this include construction of the Juvenile Fish Bypass system? What is your schedule for construction of fish bypass facilities?

Mr. DAWSON. The construction of the Juvenile Fish Bypass system is not being funded out of the powerhouse rehabilitation program. The installation of the bypass system is being funded with Construction, General, funds and will be completed early in 1987 in time for the spring juvenile fish outmigration.

Chairman HATFIELD. An amount of $6.0 million was appropriated for major rehabilitation and $1.1 million has been transferred out. What has changed which allows this transfer and what impact will it have on the project?

Mr. DAWSON. The Corps had scheduled the rehabilitation of 2½ turbine-generator units per year. After doing the first units, we found this program needed adjusting to meet actual work requirements and rescheduled for only two units per year. Also part of the reduction is the result of favorable bids on the generator rewind contract.

Chairman HATFIELD. Why is the funding request for 1987 lower than both the budget request and allocation for the current year? Is it due to engineering related problems or budgetary considerations?

Mr. DAWSON. The funding request for major rehabilitation at John Day is based on the revised schedule of work on two units per year, and not based upon budgetary restraints.

Chairman HATFIELD. What funding level would be required in 1987 to maintain the September 1990 completion schedule and how would the additional funds be used?

Mr. DAWSON. The change in completion date to 1991 is the result of scheduling rehabilitation of 2 units per year instead of the original of 2½ units per year. Increased funding would not expedite the schedule.

THE DALLES LOCK AND DAM

Chairman HATFIELD. How does the Corps plan to use the additional funds added to The Dalles project for continued prototype testing and fish ladder construction?

Mr. DAWSON. The added funds will be used for the North Shore Fish Ladder Modification and the second phase of testing and evaluation of turbine intake screens for juvenile fish protection. Both will be completed during the 1986 juvenile fish migration period. The feasibility analysis will be completed following evaluation of the test results.

Chairman HATFIELD. What portion of the $7.1 million O&M request for 1987 is to continue these activities?

Mr. DAWSON. None of the FY 1987 budget request is for these studies. Additional studies may be required in FY 1987, depending on the results of the tests scheduled for this spring. However, funds will be made available should further testing be necessary.

COLUMBIA RIVER FISH PASSAGE FACILITIES

Chairman HATFIELD. Last year, the Committees asked the Corps to place a higher priority on Columbia River fish passage facilities by adding funding for this work to various Lock and Dam projects. How are you proceeding in carrying out this intent and does the 1987 budget request reflect continued emphasis in this area?

Mr. DAWSON. In FY 1986 the Corps will complete the prototype testing of fish screens at The Dalles and Lower Monumental projects. They will also complete the feasibility analysis of alternate methods of juvenile bypass facilities at these projects in FY 86 and FY 87. Also in FY 87, they will complete a reconnaissance report on the installation of screens and alternate methods of juvenile bypass at Ice Harbor Dam to determine justification of further work at this project. At Little Goose and Lower Granite project they are continuing tests and evaluation of a gate raise modification to verify preliminary results which indicate that a gate raise would significantly improve fish guiding efficiency. Work will also include testing of turbine screen deflectors and completion of a reconnaissance report at Lower Granite Dam in an attempt to increase the juvenile fish guiding efficiency at that project. The Corps is carrying out the intent of Congress in FY 1986 and continuation of this work is proposed to continue in FY 87. However, FY 1987 activities will depend on the results of the various tests and analyses being conducted at these projects in FY 86.

MALHEUR LAKE (HARNEY COUNTY) STUDY

Chairman HATFIELD. Update the Committee on the Malheur Lake study, including a review of the flood conditions and progress and completion schedule of the feasibility study?

Mr. DAWSON. Malheur Lake is located in the closed Harney Basin in Harney County, southeastern Oregon. Following 3 years of high precipitation and runoff, Malheur Lake elevation peaked at 4102.46 feet above mean sea level on 3 May 1985. The total surface area of Malheur and Harney Lakes at that elevation was about 173,000 acres. In pre-flood conditions the lake typically ranged between elevation 4091 and 4094 (40,000 to 75,000 acres).

The recent flooding has caused severe economic hardship to the area and Harney County. Private, state and Federal lands and improvements, roads and highways, utilities, and the Union Pacific Railroad line are the major elements impacted by the high water. The lake includes a portion of the Malheur National Wildlife Refuge which has a boundary approximately following the 4093 contour line.

Studies to date indicate that a diversion canal (Virginia Valley Canal) from the lake into the South Fork Malheur River appears to be best structural solution, although other less costly structural solutions are being investigated. No plans have been considered to drain the lake; rather the objective sought by structural means is to reduce the surcharge to normal levels. These alternatives include land purchases, railroad and other relocations, and combinations thereof. The feasibility report is scheduled to reach the Secretary of the Army in about 18 months.

Chairman Hatfield. When will the Corps' recommendation be available for public review and comment?

Mr. Dawson. The first public exposure of the study findings and tentative recommendations will be in June, 1986.

Chairman Hatfield. Is sufficient funding available to complete the study as scheduled? If not, how much is needed for completion?

Mr. Dawson. Yes, sir. No additional funds will be needed for completion of the feasibility studies.

Oregon Coastal Ports—O&M

Chairman Hatfield. Does the budget request for 1987 contain sufficient funds to cover the normal operation and maintenance requirements for all the Oregon coastal ports? If not, why are those funds not being requested, how much is needed for each port, and how will the additional funds be used?

Mr. Dawson. The budget request for FY 1987 contains sufficient funds to cover the normal operation and maintenance requirements for the Oregon Coastal Ports.

Use of Privately-Owned Versus Port of Portland's Dredge

Chairman Hatfield. What percentage of the dredging work (both O&M and new) in the Lower Columbia River (from Vancouver, WA, river mile 105.5 to the mouth, river mile 3) was done by privately-owned dredges in fiscal year 1986 and in each of the 4 prior fiscal years?

General Heiberg. The percentage of dredging work performed by privately-owned dredges was as follows:

Fiscal year	*Percentage*
1982	71
1983	52
1984	55
1985	65
1986	NA

Chairman Hatfield. From fiscal year 1982 through fiscal year 1986 was the Port of Portland's dredge, the *Oregon*, used to full capacity during the time it was available to the Corps? (For purposes of this question, "full capacity" means utilized 100 percent of the time it was available for work, including travel and mobilization time but excluding down time for maintenance and repairs.) If not, estimate the percentage of its full capacity that was not utilized during the time it was available to the Corps.

General Heiberg. Operational requirements prevented full utilization of the Port of Portland's Dredge *Oregon*. Each year, about 2 months are needed for maintenance and repair. This leaves a 10-month period each year that the dredge is available for work. Based on a 10-month availability, the following table shows the percentages the dredge *Oregon* ws not used by Portland District during fiscal years 1982 through 1986.

Work period	Utilization (months)	Percentage of full capacity not utilized
Fiscal year 1982:		
01 Jun 82–30 Jul 82	2	80
Fiscal year 1983:		
01 Oct 82–16 Feb 83	5.5	
15 Jun 83–30 Sep 83	3.5 (Total 9)	10
Fiscal year 1984:		
01 Oct 83–24 Feb 84	5	
18 Jun 84–28 Sep 84	3 (Total 8)	20
Fiscal year 1985:		
01 Oct 84–04 Jan 85	3	
31 Jun 85–21 Feb 85	1	
01 Aug 85–30 Sep 85	2 (Total 6)	40
Fiscal year 1986:		
01 Oct 85–25 Feb 86	5	
Est. 2.5 months work remainder FY 86 (7.5 total est.)		25
Summary FY 1982–86 (total)	32.5	35

Chairman HATFIELD. From fiscal year 1982 through fiscal year 1986, did any private companies owning dredges capable of performing dredging work in the lower Columbia River request the opportunity to bid on work that ultimately was performed by the Port of Portland's dredge?

General HEIBERG. Yes; one Oregon firm has consistently shown an interest in performing this work. Interest from other firms has also been shown, but to a much lesser extent.

Chairman HATFIELD. Are O&M requirements for the 40-foot channel project in the lower Columbia River in the next 5 years expected to exceed the amount of O&M work performed in fiscal years 1982 through 1986?

General HEIBERG. No, although it is impossible to accurately predict future dredging requirements. In recent years our dredging workload trend in the North Pacific Division, in general, and in the Lower Columbia River has been declining. We believe this is due, in part, to construction of channel stabilization structures and intense dredging management with new technology by the Corps of Engineers. The amount of material required to be dredged in the lower Columbia River can vary sharply.

Chairman HATFIELD. What portion of the decrease will be accomplished by reducing the amount of work done by private dredges?

General HEIBERG. The Portland District will schedule the Dredge *Oregon* for a normal dredging season. As a result of the trend toward a lesser requirement for maintenance dredging in the Columbia River, we anticipate that the percentage of work available to private industry may be less than in recent years. However, the requirement for dredging does vary significantly from year to year, and it is difficult to predict the proportion that will be done by private dredges.

CONSTRUCTION OF KALAMA TURNING BASIN

Chairman HATFIELD. Was the construction of the Kalama Turning Basin undertaken as part of O&M or as a section 107 project?

General HEIBERG. The construction of the Kalama Turning Basin was undertaken as a section 107 project for the purposes of modifying the Columbia and Lower Willamette River 40-mile channel.

Chairman HATFIELD. Did any private dredging companies express an interest in performing the dredging work necessary to construct the Kalama Turning Basin?

General HEIBERG. Yes; one Oregon firm indicated an interest in performing this work.

NEW NAVIGATION PROJECTS

Chairman HATFIELD. What, if any, new navigation-related projects along the Willamette and lower Columbia Rivers are currently under consideration, whether in the form of formal studies, contemplated studies, or any other form of active consideration?

General HEIBERG. There are five anchorages and one channel deepening project currently under active study by Portland District, in addition to the ongoing Bonneville navigation lock project.

Chairman HATFIELD. Which, if any, of the projects listed in the response to the previous question are likely to be section 107 projects?

General HEIBERG. The five anchorages are being considered under our section 107 authority. The locations of these anchorages are at Vancouver, Willow Bar, Kalama, Longview, and Astoria. The channel deepening study in the Columbia River below Tongue Point, river mile 19, is a specifically authorized general investigation study. It is premature to speculate on the feasibility of these potential projects.

Chairman HATFIELD. Which, if any, of the projects listed would the Corps have authority to carry out with a Port of Portland's dredge pursuant to the current authorization for the 40-foot channel?

General HEIBERG. The five anchorages could be dredged by the Port of Portland dredge under authority in current legislation. If a channel deepening project results from the study of requirements below Tongue Point, we would expect authority to be available for use of sponsor-supplied equipment.

SAND WAVE SKIMMER

Chairman HATFIELD. Is the Corps considering constructing or proposing that another entity construct a sand wave skimmer?

General HEIBERG. The concept of a sand wave skimmer has been discussed within the Portland District for approximately 10 years. There is a design which has been suggested by a local consultant which could implement this concept. We understand that the Port of Portland is considering constructing a sand wave skimmer along the lines suggested by the local consultant. The Port of Portland has initiated this effort on its own without direction or financial support from the Corps of Engineers.

Chairman HATFIELD. What function would a sand wave skimmer perform in the lower Columbia River?

General HEIBERG. A sand wave skimmer would be used for removal of sand wave shoals from within the Columbia River navigation project. The crest of the sand wave shoals above the depth of −40 feet would be dislodged and propelled by the natural river currents and deposited in adjacent troughs below the project depth. Sand waves develop naturally along the river bottom. The largest of these shoals can be 10 to 20 feet in height, with base widths of 400 to 600 feet.

Chairman HATFIELD. Are there any sand wave skimmers in existence? If so, where are they located and who owns them?

General HEIBERG. We have no knowledge of any sand wave skimmers now in existence.

Chairman HATFIELD. What alternatives are being considered for acquisition of the services of a sand wave skimmer?

General HEIBERG. Portland District does not intend to construct or purchase a sand wave skimmer; but rather is considering a formal advertising process for the dislodgement of the sand wave shoals. This work has the potential to provide significant savings to our more traditional dredging methods.

Chairman HATFIELD. If the Port of Portland were to construct a sand wave skimmer, could the Corps use it for O&M work in the lower Columbia River under the existing authorization for that project?

General HEIBERG. The authorization document for the 40-foot channel states that the local sponsor will: "Assist in the work of improving and maintaining the main ship channel in Columbia and Willamette River by loaning to the United States a suitable pipeline dredge in good operating condition . . ." We believe this language does not preclude the use of a sand wave skimmer if it can be shown to be the least costly method of maintaining channel dimensions.

QUESTIONS SUBMITTED BY SENATOR GOLDWATER

PHOENIX, AZ, AND VICINITY—ARIZONA DIVERSION CANAL

Question. There is a citizen's task force appointed by the Mayor of Phoenix to study alternatives to Reach Four of the Arizona Canal Diversion Channel. This project is a feature of the Phoenix, Arizona, and vicinity flood control project. The task force was established in response to strong concerns expressed by the people of North Phoenix about Reach Four and the disruption of park land and homes that would result from the construction of an open channel. The task force has agreed on an alternate design for the diversion channel involving the construction of a tunnel to carry water to the Salt River. This alternative will soon be presented to the City Council of Phoenix. Is the Corps aware of this alternative proposal by the Phoenix Task Force?

Answer. Yes.

Question. If this alternative to Reach Four is feasible, do you have the authority to change the Reach Four design and incorporate the changes in the project?

Answer. The Chief of Engineers has the discretionary authority to change project design if the specific alternative is consistent with the intent of the original Congressional authorization and is the most economical means of construction.

Question. If the design change is possible, would it change the cost sharing requirements under which the project is being built?

Answer. Cost sharing requirements most likely would change, to what degree depends on the proposal selected.

Question. What would be required for the Corps to give this alternative design an evaluation?

Answer. To evaluate this proposal, the Corps would be required to develop a cost estimate comparison, analyze the design to insure realization of authorized benefits, and assess environmental impacts.

Question. Do you have the flexibility and discretion to change your plan and adopt an alternative for Reach Four?

Answer. We do, providing the alternative is consistent with the authorization and does not increase the Federal cost.

Question. Has the Corps considered a "Mole" construction tunnel of the type which is now being constructed in Phoenix for the Papago Freeway?

Answer. To date this type of tunnel has not been considered.

QUESTIONS SUBMITTED BY SENATOR BYRD

STONEWALL JACKSON LAKE, WV

Question. I want to thank you and the Corps of Engieers for the immediate response and continued cooperative attitude on the part of the Corps in helping the people of West Virginia recover from the disastrous flood which occurred in November of last year. The waters from that flood have subsided, but the effects of that flood will continue to mar the economy of the State for years and years to come.

The flood control projects previously installed and maintained by the Corps of Engineers prevented the situation from becoming even worse. The partially-completed Stonewall Jackson Dam, which some had opposed, was undoubtedly a lifesaver in the Weston area. And, I use the term "lifesaver" in its very real meaning. I believe the Corps of Engineers estimates that the partially completed dam saved something like $18 million in damages in the West area alone; isn't that correct? You are to be commended for your perseverance in pursuing this project. And for the people of West Virginia and the Weston area particularly, I thank you very much.

Answer. Three Corps of Engineers projects, Tygart Lake, Youghiogheny River Lake, and the partially completed Stonewall Jackson Lake, reduced flood stages downstream and prevented damages in the Monongahela River Basin. The damages prevented totaled approximately $226 million. The majority of the damages prevented were attributable to the Tygart Lake, 86 percent; followed by Stonewall Jackson Lake, 11 percent; and Youghiogheny River Lake, 3 percent. If the Stonewall Jackson Lake project had been completed, an estimated additional $6.7 million of damages would have been prevented in the West Fork River Basin.

KANAWHA BASIN COMPREHENSIVE STUDY

Question. The Corps of Engineers is conducting a number of navigation and flood damage prevention studies in West Virginia. One such study is the Kanawha Basin Comprehensive Study, which includes a review of potential flood protection measures in the Marlington, West Virginia area. These measures, I believe, would be located on the Greenbrier River. Your fiscal year 1987 budget justification indicates that an interim report for the Marlington area flood protection study would be completed in September of 1989. The people of that area, who have been hurt by severe flood damage, have a hard time understanding the requirements for multi-year studies, they want action now. Could you describe for the record what steps are involved in preparing the interim report for Marlington that is scheduled for completion in approximately 3½ years?

Answer. The disastrous flood of November 1985 was the largest flood of record in many parts of the basin causing approximately $70,000,000 in damages and loss of life. All study efforts completed to date will be reassessed in view of changes caused by this disastrous flood. Marlington is situated in the Greenbrief River Basin, an area which was subjected to record flooding for the entire length of the 150-mile stream. There is a need to incorporate data from this flood into project assessments and to incorporate the views of local people and officials to reflect changes that may be developed as a result of recent flooding. Additionally, several alternatives will be reevaluated such as multipurpose reservoirs in the Greenbrief/Marlington interim study. Both structural and non-structural measures will be considered.

Question. Given the severe flooding in this area, is there any way that this study could be completed sooner; and, if so, what would be required to speed up the study?

Answer. We have an additional capability of $300,000 which gives us a total capability of $475,000. The additional capability amount would advance the completion of the Marlington-Greenbrier local protection feasibility study 10 months. Although project and study capabilities reflect the readiness of the work for accomplishment, they are in competition for available funds and manpower Army-wide. In this context, the Fiscal Year 1987 capability amounts shown consider each project or study by itself without reference to the rest of the program. However, it is emphasized that the total amount proposed for the Army's Civil Works Program in the President's Budget for Fiscal Year 1987 is the appropriate amount consistent with the Administration's assessment of national priorities for Federal investments and the objectives of avoiding large budget deficits and the serious adverse effect that Government borrowing is having on the national economy. Therefore, while we could utilize additional funds on individual projects and studies, offsetting reductions would be required in order to maintain our overall budgetary objectives.

POTOMAC RIVER BASIN FLOOD CONTROL STUDY

Question. It is my understanding that, in the wake of the November 1986 flooding, the Corps of Engineers has reprogrammed $100,000 to perform flood control studies of the Upper Potomac River basin. It is also my understanding that, under this study, a preliminary review has already been conducted of the existing flood walls in the Town of Petersburg that failed during the flooding. Could you describe in detail for the record, what your FY 1986 study plans would include?

Answer. We intend to compile data on the extent of flood damage in this basin, as a result of the recent storm, reestablish contact with State and local officials and other interested parties, and determine what specific studies should be undertaken to follow up this initial effort.

Question. Are there any funds in your 1987 budget request to continue this Upper Potomac River Basin Flood Control Study?

Answer. Funds were not included in the FY 1987 budget request, since our reprogramming action took place too late in the budget process to allow a serious consideration of such additional funding.

Question. How much would be required to continue these study efforts in FY 1987 and, specifically, what would be accomplished with those funds?

Answer. We are presently developing both cost estimates and study plans for our follow-up effort, using the funds provided as a result of the reprogramming action. I will insure that you are kept informed of our progress and are furnished responses to these questions when answers are available.

NAVIGATION STUDIES

Question. I am concerned that the FY 1987 budget justification reflects a delay in the completion of a number of navigation studies. For example, last year the Division Engineer's Big Sandy River and Tug and Levias Forks studies were scheduled to be completed in September of 1987. This year's budget justifiction indicates that the study will be completed in September of 1990. Also, last year, the Kanawha River Navigation Study was scheduled to be completed by the Division Engineer in September 1988. This year's budget justification slips that date by two years. What is the reason for these delays?

Answer. The navigation component of the Big Sandy River remains on schedule with completion anticipated in December 1986. The remaining study components have been deferred.

Slippage in the Kanawha River Navigation Study completion date has occurred for several reasons. A major portion of the slippage is due to delays in obtaining reasonable Ohio River Basin traffic forecasts in this time of regional economic uncertainty. The updated traffic forecast prepared by consultants for prior studies were subject to a great deal of uncertainty and no generally acceptable set of projections were available to begin studies for the sizing and timing of the Winfield replacement project. The slippage on the Winfield interim is the result of additional design refinements and navigation system investigations that were not previously anticipated. Slippage in the completion date for the Marmet interim result from the recent determination that additional lock capacity is likely to be needed and should be evaluated in the study. Previous investigations indicated that the anticipated traffic delay problems at Marmet could be remedied without installing additional lock capacity.

ENGINEERING MANPOWER

Question. Is the Ohio River Division short of engineering staff with all the activity that is now underway at Gallipolis, Stonewall Jackson Dam, Tug Fork and elsewhere in the region?

Answer. No. The engineering staff of the Corps is adequate to handle these projects.

Question. What personnel resources would be necessary to complete these studies on schedule?

Answer. The personnel resources available to the Chief of Engineers are adequate to complete these studies on schedule.

IMPACT OF NAVIGATION DELAYS

Question. What is the impact of the three-year delay in one case and the two-year delay in the second case?

Answer. We feel the slippage is necessary to fully investigate the full range of alternatives to be considered in our Kanawha navigation study efforts. The Navigation component is on schedule and will complete in December 1986. Deferring the remaining study components will have no impact on the navigation interim.

GALLIPOLIS LOCKS AND DAM

Question. I note in this year's budget justification that the benefit cost ratio for Gallipolis Locks and Dam has improved from an estimated 11.3 in the 1986 budget to 11.8 in this year's justification. Are projected increases in river traffic largely responsible for this improvement in the benefit cost ratio; and, if so, doesn't that make the replacement of the Gallipolis facility even more urgent?

Answer. The benefit to cost ratio increased from 11.3 to 11.8 due to a change in the interest rate from $8^{3}/_{8}$ percent to $8^{1}/_{8}$ percent used in computing average annual benefits and costs. The FY 1986 budget was based on an $8^{3}/_{8}$ percent interest rate. The interest rate was fixed at $8^{1}/_{8}$ percent since construction funds were appropriated in the 1985 Supplemental Appropriations Act for Gallipolis.

Question. Do you plan to obligate this year the whole $4.4 million available for Gallipolis? Specifically, how will this money be spent?

Answer. The $4.4 million will be utilized during FY 1986. We are continuing work on plans and specifictions and, under the provisions of the 1985 Supplemental Appropriations Act, have initiated real estate efforts. We expect to award a construction contrct for the lock in December 1987.

Question. Will real estate acquisition commence this year?

Answer. Real estate acquisition has already been initiated with the first tract expected to be acquired by May 1, 1986. The lock site, comprised of 12 tracts totaling 550 acres, will be acquired initially. All 12 tracts are required to initiate construction.

Section 202 Program

Question. I note that the FY 1987 budget indicates that $2.5 million of the $17 million earmarked by Congress for the Tug Fork project was withdrawn to satisfy the general savings and slippage reduction applied by Congress to the Corps of Engineers' construction account. What is the full funding capability for 1986, and why are you not funding the project at that level?

Answer. In order to accommodate the assigned savings and slippage and the many items to be accomplished within available funds in the House, Senate, and Conference Committee Reports accompanying the FY 1986 Energy and Water Development Appropriation Act, as well as reflect the project's unexpended carryover and the possibility that some scheduled work might slip, $2.5 million of savings and slippage was assigned to Tug Fork project. It is possible that funds in excess of the amount allocated may be required in FY 1986 depending on contractor progress. The Corps can, however, restore the amount assigned as savings and slippage from available funds nationwide and use its transfer authority to allot additional funds to the project if the situation warrants.

Question. The FY 1987 budget justification requests $22.5 million for Tug Fork and other Section 202 projects in FY 1987. Does it make sense to drop the funding level substantially in 1986, and then jump back up in 1987? Doesn't this fluctuation cause you to continually reassign engineering talent from the project, and then again back to the project as the funding level varies substantially?

Answer. The majority of the increase in the FY 1987 budget request reflects additional construction contract work which is scheduled, rather than fluctuations in engineering and design requirements. It is our intention, as you correctly point out, to use engineering talent in the most efficient way.

Question. Would you supply for the record your FY 1987 funding capability for Section 202 for each construction item?

Answer. Although project and study capabilities reflect the readiness of the work for accomplishment, they are in competition for available funds and manpower Army-wide. In this context, the Fiscal Year 1987 capability amounts shown consider each project or study by itself without reference to the rest of the program. However, it is emphasized that the total amount proposed for the Army's Civil Works Program in the President's Budget for Fiscal Year 1987 is the appropriate amount consistent with the Administration's assessment of national priorities for Federal investments and the objectives of avoiding large budget deficits and the serious adverse effect that Government borrowing is having on the national economy. Therefore, while we could utilize additional funds on individual projects and studies, offsetting reductions would be required in order to maintain our overall budgetary objectives.

Item	*Capability*	*Purpose*
Williamson, WV	$8,300,000	Continue land acquisition, relocations, West Williamson floodwall, E&D, S&A and initiate snagging and clearing.
Matewan, WV	700,000	Continue E&D and S&A and initiate land acquisition and relocations.
Pineville, KY	11,050,000	Complete land acquisition, relocations, roads and cultural resources preservation, continue construction of levees, floodwalls, pumping plants and E&D and S&A.
Barbourville, KY	300,000	Continue E&D and S&A for standard project flood items and floodwall.
Other detailed studies	6,450,000	Continue ongoing studies ($2,150,000), intiate detailed design at Harlan ($3,600,000) and South Williamson ($700,000).
Total FY 87 capability	26,800,000	

QUESTIONS SUBMITTED BY SENATOR HOLLINGS

CHARLESTON PROJECTS

Question. There are five new starts for Commercial Ports requested for fiscal 1987, of which three are not yet authorized. These three are included in the authorization bill, S. 1567, but so are the Charleston Harbor and the Wando River projects.

Why were these projects lifted from the authorization and not the South Carolina projects, particularly since the Report of the Chief of Engineers for Charleston Harbor dated August 27, 1981 is earlier than two of the three projects you selected from S. 1567?

Answer. Recommendations for new starts are predicated on reasonable assurance that construction can expect to get underway in the budget year. This requires that planning and engineering activities be completed to a point that will allow for resolution of any outstanding issues and preparation of the necessary plans and specifications. The approval of the final General Design Memorandum should be expected to occur by July of the year proceeding the budget year. In the case of the Charleston Harbor deepening project, the General Design Memorandum is currently underway, but not scheduled for completion until January 1987. For the Wando River project, only the feasibility studies are complete. The continued planning and engineering phase has not been initiated.

Question. S. 1567 is expected to be enacted soon and provides for Charleston Harbor and Wando River. Does the Corps expect to submit a budget amendment for the project after the bill is approved?

Answer. At this time the Corps does not consider necessary any budget amendment that would recommend construction funding for either the harbor deepening or the Wando River project.

Question. Other than getting the authorization approved and the funds appropriated, are there any other problem that would prevent the projects from getting underway?

Answer. A prerequisite for recommending planning or construction new starts at this time is a willingness on the part of the local sponsor to agree to provide items of local cooperation that are consistent with the cost sharing and financing concepts agreed to by the Administration and the Senate Majority Leadership. The Wando River project received consideration and support as a new start in the Continued Planning and Engineering category until the executive director of the South Carolina State Ports Authority, the projects local sponsor, informed the Corps that the Authority will not agree to any cost sharing requirements not based in Federal law.

CORPS SUPPORT TO STATE DEPARTMENT ON EMBASSY CONSTRUCTION

Question. The State Department has submitted a supplemental budget estimate of $707,000,000 for security of our diplomatic installations overseas. This is just the down payment on a $4.4 billion program over the next five years, which includes $2,653,940,000 in construction. I understand that the Corps is interested in participating in the management of this huge construction program. In view of State's record, I think this might be a good move.

What is the current status of the Corps participation in the diplomatic security upgrade?

Answer. Currently, the Corps is performing approximately $400,000 worth of structural blast resistance testing for State at the Corps Waterways Experiment Station. Beyond that, the Corps is not currently participating in the security upgrade. The Corps is interested in providing support, on a mission type basis, to State on the embassy program. The Secretary of the Army has offered State the assistance of the Corps. State is considering this offer.

Question. What would be the impact in terms of personnel of your participation and how would that affect the Corps ability to carry out your regular functions?

Answer. The impact on Corps manpower resources would depend on the type and amount of support desired by the State Department. The implementation of a project generally proceeds through three stages: (1) planning; (2) design management; and (3) construction management. The Army could support State in all three stages or in only one, such as construction management. Also, the Army would be willing to assist State around the world or only in certain geographical areas. State has released a list of 45 projects in 42 foreign countries it plans to undertake in Fiscal Years 1986 and 1987. It would be particularly efficient government for the Corps of Engineers to manage construction in areas where it already has substantial construction experience, such as Europe and the Middle East. It should also be mentioned that the Corps would provide a management function and use the private sector to do most of the design and all of the actual construction work.

The Army would not agree to a support mission on the embassy program if it would have a significant impact on the Corps' regular functions. However, the Corps could accommodate a moderate level of support to State without such significant impact on its regular functions. This would be accommodated by internal management decisions such as increased contracting out to the privte sector and by management efficiencies.

SUBCOMMITTEE RECESS

Chairman HATFIELD. We will stand in recess until February 25 at 2 o'clock.

[Whereupon, at 3:17 p.m. Thursday, February 20, the subcommittee was recessed to reconvene at 2 p.m. Tuesday, February 25.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

TUESDAY, FEBRUARY 25, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:03 p.m. in room SD–192, Hon. Mark O. Hatfield (chairman) presiding.

Present: Senators Hatfield, Garn, Cochran, Abdnor, Kasten, Mattingly, Domenici, Burdick, Sasser, and DeConcini.

DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

STATEMENT OF HON. DONALD PAUL HODEL, SECRETARY OF THE INTERIOR

ACCOMPANIED BY:

ROBERT BROADBENT, ASSISTANT SECRETARY, WATER AND SCIENCE
C. DALE DUVALL, COMMISSIONER, BUREAU OF RECLAMATION
WILLIAM C. KLOSTERMEYER, ASSISTANT COMMISSIONER, ADMINISTRATION, BUREAU OF RECLAMATION

INTRODUCTION OF WITNESSES

Chairman HATFIELD. The hearing will please come to order.

We continue our hearings on the fiscal year 1987 budget to receive testimony this afternoon on Department of Interior programs and specifically, water and resource activities of the Bureau of Reclamation.

Today, we extend a warm welcome to the Secretary of Interior, Mr. Donald Hodel; Assistant Secretary for Water and Science, Mr. Robert Broadbent; and the new Commissioner of the Bureau of Reclamation, Mr. C. Dale Duvall.

Mr. Secretary, it is a pleasure to see you again, and Mr. Duvall, you have our special welcome, because I believe this is your first appearance before the subcommittee.

Mr. Broadbent, I gather that you will be returning to the private sector very shortly, and I want to express our thanks for your years of service as Commissioner of Reclamation and Assistant Secretary for Water and Science within the Department of the Interior. Your expertise and wise counsel have been of great value to us, and we wish you all the very best in your new endeavor.

Mr. BROADBENT. Thank you.

Chairman HATFIELD. If there is no objection, I propose that Mr. Hodel and Mr. Duvall give their oral statements followed by any questions the members may want to ask.

Mr. Secretary, we have your full statement. It will be placed in the record. You may proceed at this time to highlight or summarize as you wish.

Secretary HODEL. Thank you, Mr. Chairman.

Senator MATTINGLY. Mr. Chairman, before he starts, I don't have any statement for the record, but I would like to ask some questions later.

Chairman HATFIELD. Yes, the Senator may ask his questions following the oral testimony.

Secretary HODEL. Thank you, Mr. Chairman.

It is a pleasure to be here again before this committee. I have appreciated the opportunity in the past to appear before you and to talk about this budget, and I want to echo your comments about Mr. Broadbent. Not long ago, I had the thought that finally, after being in this job almost a year, I had a full complement of assistant secretaries, and I knew it was too good to last.

Chairman HATFIELD. And it didn't.

Secretary HODEL. We are sorry to have him go, but I think it is a great commendation for him that he has been selected for that challenging position in Nevada.

OVERVIEW OF BUREAU OF RECLAMATION BUDGET

Let me just say briefly with regard to the overall budget of the Department that we have attempted, in this very difficult budget time, to emphasize operations, and as we look through all the bureaus of the Department of the Interior, the effort has been made to provide the same or higher levels of funding for operations as we have had in prior years and still meet the requirements and objectives of the Gramm-Rudman-Hollings legislation. The operation and maintenance budget in the Bureau of Reclamation is consistent with that policy.

In addition, in this particular budget proposal, as I am sure you will note, the Bureau of Reclamation has a construction budget authority request which includes an increase of $77.5 million for 61 ongoing projects.

It is important to note, I think, that the outlays which have the direct effect on the magnitude of the deficit in fiscal year 1987 are, in fact, down $65 million. This budget does not contain any new construction starts; it does maintain the schedule for construction that was set forth in the 1986 budget.

LOAN PROGRAM

We continue to seek upfront financing, and I would like to mention one additional item, Mr. Chairman. We seek to carry forward on the Loan Program in 1987. Of the $39.9 million requested, $1.9 million is for three new loans which are contingent upon receiving authorizing legislation which would expand the current Loan Program authority from $600 million to $1.2 billion. The proposed legislation would provide that these loans be made at interest rates tied to the Treasury rate plus one-eighth of 1 percent.

This is obviously a tradeoff type of proposal in that we are proposing to increase the availability of loans, but we are proposing to do it through a program which requires repayment with interest for all functions. I am sure that there will be some serious discussions about that proposal in the substantive hearings.

With that, Mr. Chairman, I would complete my statement and be prepared to answer questions.

[The statement follows:]

STATEMENT OF SECRETARY DONALD PAUL HODEL

Mr. Chairman and Members of the Committee:

I am pleased to appear before you today in support of the President's FY 1987 Budget for the Department of the Interior.

The FY 1987 budget for the Department is equally sensitive to the President's efforts to reduce the Federal deficit and to managing our public resources and other Interior Department activities. The balancing of needs against available resources dominates any budget discussion. Within available budgetary resources, we have chosen generally to emphasize operation and maintenance of public lands and facilities rather than new investments in construction and land acquisitions. However, we are requesting an increase in budget authority for the Bureau of Reclamation to maintain construction schedules established in 1986. It should be noted, though, that even with this increase in budget authority, construction outlays by the Bureau will fall by $65 million in 1987, thereby contributing to the President's deficit reduction plan.

Department Totals

Before I discuss the elements of our request for the Bureau, I would like to provide you with some specifics on the budget request for the entire Department. The 1987 budget for the Department totals $6.2 billion in budget authority, a decrease of $184.3 million from the current 1986 estimate. Outlays in 1987 are estimated to be $6.6 billion, a $295 million reduction below the 1986 estimate of $6.9 billion.

While providing sufficient funding to meet the Department's many and varied responsibilities, this budget contributes to reduction of the deficit. The Department's requested budget of $6.2 billion is at a level that, taken together with the other components of the President's budget, will achieve the FY 1987 deficit target established by the Gramm-Rudman-Hollings Balanced Budget and Emergency Deficit Control Act of 1985 (P.L. 99-177).

Effects of Gramm-Rudman-Hollings

As you know, Gramm-Rudman-Hollings will result in changes in 1986 budget and spending authority and outlays. For the Department in total, $256.6 million in budget authority and spending authority is sequestered, of which $218.1 million is permanently cancelled. Reimbursable spending authority of $10.7 million and loan authority of $5.5 million will also be sequestered under P.L. 99-177. These sequestrations will reduce 1986 outlays for the Department by $202 million.

The total 1986 impact of P.L. 99-177 on the Bureau of Reclamation is the permanent cancellation of $34.3 million in budget authority, an additional decrease of $6.1 million in spending and obligational authority, and a loan limitation decrease of $2.1 million. The effect on outlays for the Bureau is a 1986 decrease of $30.3 million.

Bureau of Reclamation

The 1987 budget estimate of $934.4 million represents an increase of $118.5 million over the 1986 appropriation of $815.9 million. The 1987 estimate is an increase of $152.9 million over the 1986 estimate, which reflects P.L. 99-177 sequestrations. The 1987 estimate for accounts subject to appropriation is $853.1 million, an increase of $108.6 million over the 1986 estimate of $744.5 million.

Construction Program

The budget request of $576.8 million for the Construction Program, a $77.5 million increase in budget authority over the 1986 budget estimate of $499.3 million, provides for continued construction on 61 projects. Work on one drainage and minor construction project and up to six safety of dams initiatives will begin.

While no construction new starts are proposed for 1987, $42 million is provided for the four initiatives first funded in 1985, including $15 million in non-Federal cost sharing. Major increases in funding include $13 million for Buffalo Bill Dam modification, $26 million for the Central Utah Project, $11 million for dam safety projects and $17 million for the Central Arizona Project.

The increase in the Construction Program may seem to be a departure from the overall Departmental budget policy of deemphasizing construction and emphasizing operations and maintenance of existing facilities. However, the budget projects construction obligations to decrease from $711 million in 1985 to $600 million in 1986 and $577 million in 1987. Therefore, while maintaining construction schedules established in 1986, we are still projecting a 4% reduction in obligations and a 9% reduction in outlays.

The budget reflects the progress which the Bureau has made in the past year in seeking and strengthening partnership arrangements with States and other non-Federal interests concerned with water development in the West. Not only does our 1987 program reflect $15 million in non-Federal cost sharing on the four construction projects initiated under the 1985 supplemental appropriations bill, but it also includes $27.3 million in non-Federal financing for the uprating of generators at Hoover Dam. The CAP Plan 6 cost sharing proposal is currently under review within the Department. Our 1987 and outyear budget estimates are sufficient to meet the construction schedules proposed in the agreement.

Loan Program

The request for the Loan Program in 1987 is $39.9 million, a $2.3 million increase over the 1986 estimate of $37.6 million. The request includes $38 million to continue work on 15 projects. The remaining $1.9 million is for three new loans that will be subject to a legislative proposal that will raise the authorization ceiling from $600 million to $1.2 billion and, consistent with the Administration's proposed credit management reform policy, will require that all loan costs be repaid at current Treasury borrowing costs plus one-eighth of one percent for administrative expenses.

Planning

The 1987 request for General Investigations is $27.8 million, a $4.8 million decrease below the 1986 estimate of $32.6 million. The major emphasis in the planning program is on projects that would increase municipal and industrial water supplies, enhance water quality, and assist in meeting irrigation and energy needs. The reduction of $4 million in the plan formulation and advance planning programs reflects completion of 17 studies and termination of 9 studies. The reduction reflects an effort to set funding for the Bureau's planning program at a level which bears a reasonable relationship to expected future funding levels for new starts, and to target planning efforts on those projects which are likely to generate significant construction cost sharing and which have the best prospects for being built.

Operation and Maintenance

The 1987 budget request for Operation and Maintenance is $150 million, a $23 million increase over the 1986 estimate, for activities on 34 projects and the Bureau's associated O&M program. Increases are proposed for most projects to permit funding of a reliable operation and preventative maintenance program. Major increases are proposed for Yuma area projects (+$11 million) where new facilities at the Yuma Desalting Plant are coming on line, and for the Central Valley Project (+$10 million) where payments to the State of California will be made for past water delivery charges.

Other

In 1987, the budget request includes $51.2 million, an increase of $4.1 million over 1986, for General Administrative Expenses. The request for the Emergency Fund is $1 million, the same amount appropriated in 1986. The budget projects that non-Federal contributions to Reclamation Trust Funds will increase by $11.3 million to $28.1 million, reflecting increased cost sharing for construction new starts first funded in 1985. In addition, the Bureau carries out many cooperative activities through reimbursements, such as the Foreign Activities Program, which now provides assistance in 12 countries.

Irrigation Drainage Activities

The overall budget request for the Bureau includes $11.5 million to continue the joint Federal-State study of the environmental and economic impacts of and potential solutions to irrigation drainage problems in the San Joaquin Valley and to complete preparation of the clean-up plan for Kesterson Reservoir. No funds are requested at this time for actual clean-up pending submission of the clean-up plan to the State of California in December, 1986. The $11.5 million request will fund activities of the Fish and Wildlife Service, Geological Survey and Bureau of Reclamation.

In 1985, I established a Departmental Task Group on Irrigation Drainage to evaluate irrigation drainage effects at Interior facilities in other parts of the West. In January 1986, the task group identified 19 areas involving Department of the Interior responsibilities throughout the West which require further study to determine if corrective action is needed to address confirmed or potential irrigation water quality problems. Field teams are now preparing plans of study. Additional resources involving several bureaus and, potentially, non-Federal sources may be needed in 1986 to initiate field work at highest priority sites and in 1987 to conduct other priority work. The Department intends that funding for this work occur within existing budget levels.

Conclusion

In conclusion, Mr. Chairman, I believe this is a good budget which should be approved by the Congress. This budget fairly meets our responsibilities to support water development in the West in cooperation with State and local interests and it highlights the need to maintain facilities already in place. It helps put the overall Federal budget on a course of steadily declining deficits leading to a balanced budget.

I will be happy to answer any questions that you have at this time.

REMARKS OF C. DALE DUVALL, COMMISSIONER OF RECLAMATION

Chairman HATFIELD. Thank you very much, Mr. Secretary.

Mr. Duvall, do you wish to proceed?

Mr. DUVALL. Thank you, Mr. Chairman.

The first comment that I would like to make is that it is, indeed, a pleasure for me to make my first appearance here before this particular subcommittee today and to extend, on behalf of myself, my ongoing commitment to work in cooperation and in sync with you and with the members of your subcommittee as I continue to expand and understand better the position to which I have been appointed.

As a nation, we have doubled our consumption of water over the past three decades, but we have not doubled our available water supply. Reclamation continues to work actively toward responsible management to stretch available water supplies and toward developing additional water resources to meet the needs of future generations.

FISCAL 1987 BUDGET REQUEST

The President's fiscal year 1987 budget request for the Bureau of Reclamation represents the amounts needed to maintain a sound water resource developmental program in the West. The request of $853 million includes $577 million for the construction program, $150 million for operations and maintenance, $40 million for the loan program, $28 million for general investigations, and $58 million for other purposes.

In fiscal year 1986, we reduced our request for new budget authority in recognition of the large carryover balance in the construction program. Although the 1987 request reflects an increase over the 1986 budget, improved program accomplishment will result in a relatively constant workload for Reclamation.

For example, actual obligations were $1.090 billion in fiscal year 1985 and are estimated to be $1.040 billion in both 1986 and 1987.

Actual outlays were $954 million in 1985 and are estimated to be approximately $1.008 billion in 1986 and $987 million in 1987.

In summary, even though our request for budget authority rises in 1987, our expenditures, consistent with the President's deficit reduction goal, are decreasing.

CONSTRUCTION PROGRAM

In fiscal year 1987, in the construction program, we are projecting a decrease in Federal outlays of approximately $65 million, or almost 10 percent. Expenditure of funds contributed by non-Federal entities for upfront financing and operating of the generators at Hoover Dam partially offset this reduction in outlays, as the Bureau's total 1987 outlays estimate is only $21 million below that of 1986.

The way things have gone so far in 1986, it appears that we have made a lot of progress in our efforts to reduce the large carryover balance in the construction program.

Reclamation will continue to follow the Presidential policy for water project financing and cost-sharing objectives. Project beneficiaries will bear a part of the cost of financing new project development, their share being worked out on a project-by-project basis.

The budget includes $204 million allocated to the Central Arizona Project to continue construction. We are currently negotiating with the local districts to reach an agreement on upfront financing of several major features of the Central Arizona Project.

The funding request for the Central Valley Project in California is approximately $30 million. This includes $11.5 million to continue the joint Federal-State study of the environmental impacts of and the potential solutions to irrigation drainage problems in the San Joaquin Valley and to complete preparation of the cleanup plan for the Kesterson Reservoir.

Funds amounting to $18 million are being requested in fiscal year 1987 for the Garrison diversion unit in North Dakota. The budget assumes that the required authorizing legislation will not be passed by March 31. If the legislation passes, a budget amendment will be submitted. The fiscal year 1987 amount is required for an orderly shutdown of this project.

OPERATION AND MAINTENANCE

The fiscal year 1987 Operation and Maintenance Program of $150 million is aimed at preserving the operation and the structural integrity of aging facilities, increasing the productivity of operating facilities on existing projects, and minimizing the present and future Federal cost of operation, maintenance and repair or replacement of facilities, while devising and employing ways to assure a quicker return on investment to the Federal Government.

LOAN PROGRAM

Under the Loan Program, we are requesting a total of $40 million. Funds of $2 million are included for three new loans contingent upon enactment of legislation to increase the appropriations ceiling and to provide for reimbursement of such loans at current Treasury borrowing rates, plus one-eighth of 1 percent.

GENERAL INVESTIGATIONS

The request for the General Investigation Program is $28 million. Funds will be provided for 27 ongoing plan formulation investigations and for 4 ongoing, advance planning projects. Funding of $1 million will be available for four new investigations and three new advance planning studies. This proposed budget represents an efficient and necessary program to provide important water resources to the arid West.

With that, I would ask that my entire statement be submitted for the record, but would make myself available to answer any questions that you or the committee may have.

Chairman HATFIELD. Thank you, Mr. Duvall. Your entire statement will be placed in the record.

[The statement follows:]

STATEMENT OF C. DALE DUVALL

Thank you, Mr. Chairman, for the opportunity to appear before you and the committee today to discuss the proposed fiscal year 1987 budget for the Bureau of Reclamation.

This is my first appearance before you as Commissioner and I consider it a privilege to be here to represent the Bureau of Reclamation.

Despite the changes taking place all around us these days, and the necessity for financial prudence in our business affairs, there remains a need that is constant for the well being of us all. That need is an adequate supply of good quality water. Reclamation continues to work actively toward responsible management of our available water supplies and toward developing additional water resources to meet the needs of future generations.

A major reorganization was accomplished at the end of last year with the merging of the Bureau's Lower Missouri Region with the Upper Missouri Region to become the Missouri Basin Region. This has brought the entire Missouri River Basin under one Bureau management team creating a more efficient regional operation realizing significant cost savings amounting to approximately $3 million per year. This move was also accomplished with a minimum of disruption to our staffs and programs.

The President's fiscal year 1987 budget request for the Bureau of Reclamation represents the amounts needed to maintain a sound water resource development program in the West. The request of $853 million includes $577 million for the Construction Program, $150 million for Operation and Maintenance, $40 million for the Loan Program, $28 million for General Investigations, and $58 million for other purposes.

The total represents an increase of $109 million over the $744 million appropriated for fiscal year 1986 for Reclamation activities under the fiscal year 1986 Energy and Water Development Appropriations Act, including $33 million in reductions in budget authority as a result of P.L. 99-177, the Balanced Budget and Emergency Deficit Control Act of 1985.

The total impact of P.L. 99-177 on the Bureau of Reclamation is the permanent cancellation of $34 million in budget authority, an additional decrease of $6 million in fiscal year 1986 spending authority, and a loan limitation decrease of $2 million. The effect on outlays for the Bureau of Reclamation is a fiscal year 1986 decrease of $30 million.

In fiscal year 1986 we reduced our request for new budget authority in recognition of the large carryover balances in the Construction Program. Although the 1987 request reflects an increase over the 1986 budget, it results in a relatively constant workload and expenditure level for Reclamation. For example, actual obligations were $1.09 billion in fiscal year 1985, and are estimated to be $1.04 billion in both 1986 and 1987. Actual outlays were $954 million in 1985, and are estimated to be approximately $1,008 million and $987 million in 1986 and 1987, respectively. In sum, even though our request for budget authority rises in 1987, our expenditures are decreasing, consistent with the President's deficit reduction goal.

In the Construction Program, we are projecting a decrease in outlays (i.e. expenditures) of approximately $65 million, or almost 10 percent. Expenditure of funds contributed by non-Federal entities for up-front financing and uprating of the generators at Hoover Dam partially offset this reduction in outlays, as the Bureau's total 1987 outlay estimate is approximately $21 million below that of 1986. The way things have gone so far in 1986, it appears we have made a lot of progress in our efforts to reduce the large carryover balance in the Construction Program.

Reclamation will follow the Presidential policy for water project financing and cost-sharing objectives. Project beneficiaries will bear a part of the cost of financing new project development; their share is worked out on a project by project basis.

The request of $577 million for the Construction Program provides for continued construction on 61 projects. Work will begin on one drainage and minor construction project and up to six safety of dams initiatives. Preconstruction activities will begin on the Spring Creek Toxicity Control Project pending agreement with the Environmental Protection Agency on project funding. While there are no new construction project starts planned in 1987, $42 million will be available for the four projects first funded in 1985, which includes $15 million in non-Federal cost sharing.

The contract for modifications at Buffalo Bill Dam will be awarded in fiscal year 1987. Funds of $13 million are needed to finance ongoing contracts plus this new contract. $10.5 million is also available during 1987 for this work from the State of Wyoming.

The Boulder Canyon Project in Arizona and Nevada will require $6 million. These funds are for improvements of the visitor facilities around Hoover Dam. The dam remains one of the Bureau's proudest accomplishments. This past year we celebrated Hoover Dam's 50 years of operation. The celebration drew extensive and favorable recognition from major media around the nation.

Work on the Headgate Rock Hydroelectric Project in Arizona will continue during fiscal year 1987. The amount of $6.8 million will fund continued construction on the powerplant.

The last of the four new starts funded for the first time in the Fiscal Year 1985 Supplemental is the Animas-La Plata Project. $1 million is provided for this project in fiscal year 1987. Construction of this project is conditioned on reaching agreement with the States for project cost sharing and financing. In addition to the Bureau's funds, the budget assumes that Colorado and New Mexico will contribute $4.2 million in 1987. We are currently negotiating an up-front cost sharing agreement with the States in order to reduce the effective cost of this project to the U.S. Government.

The budget includes $204 million allocated to the Central Arizona Project to continue construction. This level of funding will maintain the current schedule to complete the Tucson Aqueduct by 1991. We are currently negotiating with the local districts to reach an agreement on up-front financing of several major features of the Central Arizona Project. The budget request is consistent with the schedule being discussed in the negotiations.

During 1987 construction will continue on the Tucson Aqueduct and associated pumping plants, transmission facilities, regulatory storage facilities, and safety of dams activities. Construction will also continue on one Indian and five non-Indian distribution systems and one joint-use main delivery canal.

The funding request for the Central Valley Project in California is approximately $30 million. This includes $11.5 million to continue the joint Federal-State study of the environmental and economic impacts of and potential solutions to irrigation drainage problems in the San Joaquin Valley, and to complete preparation of the clean-up plan for Kesterson Reservoir. No funds are requested at this time for actual clean-up pending submission of the clean-up plan to the State of California in December 1986.

Construction of Brantley Dam in New Mexico will continue as well as acquisition of land and rights. This work will require $24 million in fiscal year 1987.

Work on the Columbia Basin Project in Washington, including the Third Powerplant will require $31 million in 1987.

Funds of $51 million are requested for the Colorado River Salinity Control Projects. Work will continue on the Yuma Desalting Plant and related facilities. Construction will continue on the Grand Valley, Paradox Valley, and Las Vegas Wash units.

Funds amounting to $18 million are being requested in fiscal year 1987 for the Garrison Diversion Unit in North Dakota. The budget assumes that the required authorizing legislation will not be passed by March 31, 1985. The fiscal year 1987 request funds an orderly shutdown of this project.

In Nebraska, construction of Calamus Dam, part of the North Loup Division of the Pick-Sloan Missouri Basin Project, has been completed and initial filling of the reservoir began last fall. Construction of the Mirdan Canal and lateral system are to be completed in fiscal year 1986. With funding of $14 million in fiscal year 1987, work will be completed on the Geranium Canal and lateral system.

McGee Creek Project in Oklahoma is scheduled to be operational in June of 1986 and will provide supplemental municipal and industrial water to Oklahoma City and surrounding communities. Construction of access roads to recreation and scenic areas and acquisition of land will continue during 1987 with funding of $7.8 million.

$83.8 million has been requested for the Bonneville Unit of the Central Utah Project for the relocation of U.S. Highways 40 and 189, and the construction of the Alpine Aqueduct Reach 2. Construction will continue on Upper Stillwater Dam, which is a roller compacted concrete structure, Doc's Diversion Dam and Feeder Pipeline, and Rhodes Diversion Dam. The districts that will benefit from this project have recently voted to amend the repayment contract providing larger sums to the Treasury.

In South Dakota, the Bureau will continue to administer funds for construction of the WEB Rural Water Development Project. The request is for $21.5 million. The WEB Project will supply water from Lake Oahe for domestic use to rural residents and towns.

Construction of fishways and screen structures will be completed at six sites and initiated at seven other sites in Washingtion under the Yakima Fish Passage and Protective Facilities Project. This work will require $12 million in 1987.

At various locations throughout the 17 Western States, funds of $4 million are requested for Rehabilitation and Betterment work; for Safety of Dams work, $40 million; and for Drainage and Minor Construction activities, $35 million. Development of Recreation and Fish and Wildlife facilities will require $13 million in fiscal year 1987.

The fiscal year 1987 Operation and Maintenance program of $150 million is aimed at preserving the operation and structural integrity of aging facilities, increasing productivity by uprating facilities on existing projects, and minimizing the present and future Federal cost of operation, maintenance, and repair or replacement of facilities, while devising and employing ways to assure a quicker return on the Federal investment.

Operation and maintenance of 34 projects are provided for in the 1987 request as well as funds for associated programs. Approximately one-third of the $150 million request will go for normal operation and maintenance of Federal facilities in the Central Valley Project in California and for payments to the State of California for past water delivery charges. A new program will be initiated for the Brantley Project in New Mexico. The main unit transformer at the Columbia Basin Project will be replaced.

Another $16.8 million of the new budget authority will be allocated to various projects of the Pick-Sloan Missouri Basin for their Operation and Maintenance work. Extraordinary maintenance at the Middle Rio Grande Project in New Mexico will continue restoration of the low-flow conveyance channel that maximizes delivery of water to Mexico under the Rio Grande Compact.

Uprating of powerplants and generators will continue at various Federal facilities throughout the West. At the completion of all uprating programs ongoing in fiscal year 1987, total power capacity will be increased by 128.5 megawatts. Our program will continue to design and replace needle valves at 20 Reclamation dams. All Bureau needle valves will be investigated and replaced, if still needed, with jet-flow gates by fiscal year 1991.

Other objectives in the 1987 program will be to provide for replacement and addition items and extraordinary maintenance to protect facilities to ensure adequate delivery of project water and power, ensure the safety of existing structures, upgrade or increase facilities where necessary, improve service to the general public, replace worn equipment, and improve water and power conservation.

We will continue the administration of the Reclamation Reform Act of 1982, including the provisions of Section 203(b) which must be fully implemented by April 12, 1987.

Under the Loan Program, we are requesting a total of $40 million compared to a fiscal year 1986 appropriation of $38 million. Funds of $2 million are included for three new loans contingent upon enactment of legislation to increase the appropriation ceiling and provide for reimbursement of loans for all project purposes at current Treasury borrowing yields plus 1/8th of one percent. The new loans are Middle Creek Dam Rehabilitation Project in Montana, United Water Conservation District in California, and San Bernardino County Project in California. Under the Distribution System Loans Act work will continue on one project and under the Small Reclamation Projects Act, work will continue on 14 projects.

The request for the General Investigations Program is $28 million. Funds will be provided for 27 ongoing investigations and for four ongoing advance planning projects. Funding of $1 million will be available for four new investigations and three new advance planning studies. The major emphases are increasing municipal and industrial water supplies, enhancing water quality and assisting in meeting irrigation and energy needs.

Included in the General Investigations appropriation account request are funds of $9.7 million for engineering and research activities. This will allow continued development of technologies to increase water supplies by cloud seeding techniques and will provide for studies to assist in the planning, design, construction, and operation of multipurpose water resource projects. Other areas under study include dam safety, water conservation, maintenance and repair, power generation, construction materials, and fluid mechanics.

The reduction in the General Investigations Program of $5 million from fiscal year 1986 is proposed to meet deficit reduction objectives, to establish funding levels for our planning program which bear a reasonable relationship to expected future funding levels for new starts, and to target planning efforts on those projects which are likly to generate significant cost-sharing and have the best prospects for being built.

The Bureau of Reclamation is also continuing its Foreign Activities Program to share its expertise with other nations. Advisory assistance and cooperative programs are continuing with 15 foreign nations. The estimate for activities and services in fiscal year 1987 is $12 million. All technical assistance and training programs are fully reimbursed to the Bureau by another Government agency, an international funding organization, or a foreign government.

Summarizing our proposal, in fiscal year 1987 we are requesting: $28 million for project investigations and research to identify solutions to future water needs and to advance the state-of-the-art; $577 million for the construction of projects already authorized by the Congress; $150 million to operate and maintain facilities to assure greater efficiency and safety; $40 million to assist local entities with their own water projects; and $57.7 million to fund the other responsibilities and functions necessary in carrying out the Reclamation program.

Passage of the Bureau of Reclamation's budget as proposed by the President will allow the continued development and conservation of water resources in the West for the benefit of all Americans. This proposed budget represents an efficient and necessary program to provide important water resources to the arid West.

That concludes my presentation and I invite any questions you may have.

RECOGNITION OF MRS. HODEL

Chairman HATFIELD. I think the record should show that we are honored today to have Mrs. Hodel as an observer here in the hearings. She has been a very important part of the career of Secretary Hodel over the years, and we are very happy to see you here today.

I will yield at this time and hold my questions until the end so that my colleagues who have conflicting schedules may get their questions put in the record early.

The Senator from Georgia?

QUESTIONS SUBMITTED FOR THE RECORD

Senator MATTINGLY. Mr. Chairman, I would just like to have a couple of questions put in the record.

Chairman HATFIELD. Do you want them submitted for the record?

Senator MATTINGLY. Yes; all right.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY SENATOR MATTINGLY

Federal Land Acquisition

Question: As you know, I have supported the efforts to reduce the Federal deficit in every reasonable way, and I can understand the general commitment to a budget which reduces land acquisitions. However, in some circumstances, can't this prove to be a false savings when we are considering parcels needed to fill out or complete an existing Federal resource location ... parcels which are really important to the overall operation of the area and which will be lost to development, at worst, or which will drastically increase in price if we delay?

Answer: We are concerned about non-Federal lands that are important to the overall operation of areas administered by the Department of the Interior. We will take every action necessary to protect lands necessary to our mission from development or other threatening situations. The 1987 budget for the National Park Service includes $8 million for emergency and hardship acquisitions and for deficiencies, hardships and relocations. Future budgets will continue to include funding for these needs. Therefore, we do not feel that we will lose any needed lands to development or other threats. In addition, there is a significant amount of unobligated appropriations from prior years that will be used to acquire high priority tracts that become available for acquisition.

There is a possibility that some desired properties could increase in price if we defer acquisition. However, changes in real estate values vary throughout the country. Some areas may experience price increases while others will not likely change or may even decrease. We feel that where lands are not jeopardized for the foreseeable future by some activity taking place, we should defer purchase in order to reduce Federal spending. Ideally, we would prefer to acquire all necessary lands as soon as possible. Obviously, this would be an expenditure that the government cannot afford to make at this time. Because we will protect threatened resources and carryover funds are available for other acquisitions, and because we must reduce Federal spending wherever possible, we believe that funding for discretionary land purchases should be deferred at this time.

Question: Do you think of alternatives to outright Federal funding of these types of limited, but vital, acquisitions? For instance, do you feel that the Administration might consider supporting some type of revenue bonds which would be used to make the acquisition, and then retired in part or entirely from the proceeds of user or entrance fees?

Answer: We will use alternative means wherever possible to acquire properties or provide sufficient protection of resources. These alternatives include land exchanges, donations, cooperative agreements, and purchases of scenic easements.

We have not considered alternative financing methods such as revenue bonds. It would appear that such bonds would further increase the national debt and would not provide an advantage over direct appropriations. Further, the Administration is proposing legislation that would, in part, make recreation fees collected by the National Park Service and the Forest Service available to those agencies to help provide and maintain recreation areas. Under the proposal for the National Park Service, increases in and the availability of recreation fees will allow total funding for park operations to increase while shifting some of the financial burden from the general taxpayer to the individuals who use and benefit from the resources. If the Administration's legislative proposals are enacted, recreation fees would not be available for land acquisition.

We believe that using fee revenues to operate and maintain existing recreation resources is preferable to using fee revenues to increase Federal real estate holdings. By using fee collections to operate and maintain park units, park users will be able to see more directly the benefits of their contributions. We believe this is an important element in winning public support for recreation user fees.

RIVER BASIN COMMISSIONS

PREPARED STATEMENTS

Chairman HATFIELD. I also want to include in the record the prepared statements and other supporting material relative to the River Basin Commissions.

Without objection, that will be included at this point.

[The information follows:]

STATEMENT OF WARNER M. DEPUY, U.S. COMMISSIONER, SUSQUEHANNA RIVER BASIN COMMISSION

Mr. Chairman and Members of the Committee:

Again, it is a pleasure to appear before you. I do this in a dual capacity, in support of the appropriation request for salaries and expenses for the Office of the United States Commissioner and also for the Federal contribution to the Susquehanna River Basin Commission.

This Federal-Interstate Compact Commission was established pursuant to Public Law 91-575 among the States of Maryland and New York, the Commonwealth of Pennsylvania, and the Federal Government. The Compact serves as the vehicle to produce the most efficient service in the public interest in the conservation, utilization, development, management and control of the water resources of the Basin.

The Commission's membership consists of the Governors of the signatory states, or their appointed designees, and a Federal Member appointed by the President to represent all Federal Agencies. Historically, the Federal Member has been the Secretary of the Interior. In addition, each Governor and the President are directed to appoint a Commissioner to serve as alternate to the Member with identical powers of the Member, including the power to vote in the absence of the Member. The non-Federal staff of the Commission receives direction from the Members of the Commission through their alternates.

The duties of the Federal Member and the United States Commissioner are to represent the interests of the Federal Government on the Commission and to protect the national interests in the water resource development programs for the Susquehanna River Basin. To accomplish this, the Member and the Commissioner must work closely with all interested Federal Departments and Agencies, serving as coordinators to assure that Federal interests are fully informed regarding all water resources development programs for the Susquehanna River Basin. They also represent Federal interests in all actions by the Commission relating to the comprehensive plan and the advisability of individual water resource policies, programs, and projects which the Commission may propose or consider.

SALARIES AND EXPENSES

An appropriation of $179,000 for fiscal year 1987 is requested to finance salaries and expenses necessary to enable the United States Commissioner to carry out his responsibilities to protect the Federal Government's interests in the Susquehanna River Basin. This is a $16,000 increase from the level appropriated by the Congress for fiscal year 1986.

CONTRIBUTION TO SUSQUEHANNA RIVER BASIN COMMISSION

A request of $240,000 is to provide for the Federal Government's share of the $1,522,500 current expense budget of the Commission, and is a $10,000 increase from the level appropriated by the Congress for fiscal year 1986. The current expense budget covers expenses of the staff and the regular operating programs of the Commission.

IMPACT OF GRAMM-RUDMAN-HOLLINGS

As a result of P.L. 99-177, we have received a reduction of $7,000 for my office and a $10,000 reduction in the contribution to the Commission in this fiscal year.

Mr. Bielo, the Executive Director of the Commission, is accompanying me today and has submitted a statement to the Committee which briefly outlines some of our achievements. We will be happy to answer any questions you have regarding the Commission's current activities and new program initiatives proposed for fiscal year 1987.

STATEMENT OF ROBERT J. BIELO, EXECUTIVE DIRECTOR, SUSQUEHANNA RIVER BASIN COMMISSION

Mr. Chairman and Members of the Committee:

On behalf of the Susquehanna River Basin Commission, I want to express our appreciation for this opportunity to appear before you today to outline our programs, highlighting items we believe to be of greatest concern and to request your support for the proposed Federal share of the Commission's fiscal year 1987 operating budget.

The Commission's programs are directed to address the major areas of water resource management and development that are defined and described in the Federal-Interstate Compact (P.L. 91-575). During the 14 years of operation, the Commission has expended the major portion of its funds on three program areas: flood plain management, water supply and water quality.

In fiscal year 1986, a high level of effort is being directed toward coordination of efforts to expand and improve the National Weather Service flood warning and forecasting system in the Basin. I would take this opportunity to express our members' appreciation to the Congress for including funds in the National Weather Service budget to initiate this much needed program.

The importance of timely and accurate flood forecasts cannot be over emphasized, especially in a river basin which has a flood history and damage record such as that of the Susquehanna. A substantial portion of our fiscal year 1987 budget will be used in continuing programs designed to extend self-help flood damage reduction programs to flood prone communities and vulnerable industries.

While vulnerability to flooding is a continuing threat to the people and economy of the Susquehanna River Basin, the problems of drought and failing water supplies have been occurring with increased frequency.

Fortunately, drought events do not come about in a matter of hours or days as do floods. In view of this, the Commission has initiated a number of long-range programs designed to deal with future droughts and recurring water supply problems. Drought management plans, expanded groundwater monitoring and model development for critical aquifers, reservoir management programs and subbasin framework plans for water supply management on upstream watersheds are major elements of this portion of the Commission's program.

One added example of the Commission's overall water supply program is the continuing effort toward development of water supply storage at Cowanesque Lake, a Federal flood control-recreation project in Pennsylvania. Special studies regarding this project that were required by the Compact, and additional studies requested by the State of New York have been completed. The findings, which were favorable, were reviewed at a public hearing in December 1985 and adopted by the Commission in public session February 13, 1986.

The Cowanesque project provides a unique opportunity for the Army Corps of Engineers and the Susquehanna Commission to develop an existing project to include, at nominal cost to the Federal Government, needed water supply storage and expanded recreation at an upstream location in the Basin.

The project will provide to the Federal Government a very substantial level of cost return on its original investment, plus a portion of future project O&M costs. The Commission for its part will obtain water supply storage in an environmentally sound and cost effective manner.

The Commission and Corps staff are working toward final draft contracts for the project. Beyond the staff level of action, the Commission has agreed to upfront payment of the cost to modify the project and proposed to pay the Federal Government 100% of the original construction costs allocated to water supply, plus interest determined as described in the Water Supply Act of 1958 and P.L. 99-88. If this proposal is acceptable to the Secretary of the Army, the Commission would over the period of the contract return approximately $75 million to the Federal Treasury. With continuing effort on all sides, the Commission expects to have a fully executed contract between the Secretary of the Army and the Susquehanna Commission in place before June 30, 1986, in accordance with the requirements of P.L. 99-88.

The Environmental Protection Agency's Chesapeake Bay Study completed in 1983 identified the Susquehanna River Basin as a major source of nutrients to the Bay. In response, the Commission as a part of its water quality program developed and implemented a plan for monitoring suspended sediment and nutrient loadings in the Susquehanna River and selected tributaries. Under the plan, monthly baseflow samples and storm runoff samples are collected from 13 sites. The samples are analyzed and the data are forwarded to Pennsylvania and to EPA for use in planning best management practice programs and modifying the existing Chesapeake Bay tributary model.

In another program, the Commission annually undertakes a Water Quality and Biological Survey of a major subbasin. The findings are published and serve the States and EPA in planning future water quality programs. In fiscal year 1986, the Commission implemented a toxic screening program in conjunction with its surface and groundwater monitoring effort. This program will be continued through fiscal year 1987.

The effort to restore runs of anadromous fish, namely American shad, to the Susquehanna River continues as a goal of the signatories to the Susquehanna Compact. The Commission remains as an active participant in this long-standing effort.

To close, this report briefly notes the general direction of Commission programs and highlights efforts we believe are of national as well as regional interest. The Commission respectfully requests your support for the proposed Federal share of its fiscal year 1987 operating expenses in the amount of $240,000 as indicated in the President's budget.

STATEMENT OF GERALD M. HANSLER, EXECUTIVE DIRECTOR, DELAWARE RIVER BASIN COMMISSION

Mr. Chairman and Members of the Committee:

Thank you for this opportunity to comment on elements of the Administration's fiscal year 1987 budget request concerning the Delaware River Basin Commission, as well as our own proposed DRBC budget.

First, we are pleased that the Corps of Engineers has included in their fiscal year 1987 Civil Works budget request:

- $3,000,000 towards the initial phases of construction for the Francis E. Walter Reservoir Project, and
- $1,000,000 for advanced engineering and design for Prompton Lake Project.

The Delaware Commission has requested Congress to modify the Federal Reservation section of our Compact, Section 15.1(b), by removing the "grandfather" clause which now prevents the Commission from charging pre-Compact water users for the cost of post-Compact projects -- even though those projects would provide benefits to pre-Compact users. Congressman William Hughes has introduced the necessary legislation on the House side and Senator Bill Bradley in the Senate. With modification of Section 15.1(b), we feel that a revised, but fair and equitable, water sales program can be adopted which will provide the revenue stream necessary to repay interest and principal on bonds, O&M, and associated project costs. As you know, the Corps is now requiring up-front dollars to cover the non-Federal share of multipurpose reservoir projects.

The Commissioners to the DRBC are in accord regarding the Federal cost-sharing arrangement for the F. E. Walter Project, even though our non-Federal share (percentage) is now significantly greater than originally authorized by Congress in H.D. 522 (88.6% vs. 67.8%). Based upon an estimated project cost of $112,800,000 for the F. E. Walter Project, this amounts to a Federal savings of $23,500,000.

Though the State Commissioners directed me, at our Commission meeting last Wednesday, to support the Corps projects, they also directed me to testify before this Subcommittee regarding our proposed current expense budget for fiscal year 1987.

Specifically, the four state commissioners believe that the Federal contribution towards our current expense budget should be $289,000, as set forth in our proposed fiscal year 1987 budget -- not the $200,000 requested by the U. S. Commissioner on page 11 of his budget justification document.

When Gramm-Rudman-Hollings reductions take effect, we will take our lumps along with everyone else in the country. But, to begin with an arbitrary and unfair line item reduction of 30% ($89,000) and then be further impacted by Gramm-Rudman-Hollings, this would cripple our ability to perform. Over the past four fiscal years, the states' contribution to our current expense budget -- exclusive of special projects -- has risen by 22%, while the Federal share has risen but 2%. The state members to the Commission are assuming a bigger share of the budget to operate this relatively small-sized federal-interstate agency.

The United States Commissioner's stated reason for further cutting the Federal "fair share" to our current expense budget is that DRBC receives additional grants from other Federal agencies. The two grants cited on page 11 of the justification:

- NOAA grant for seasonal disinfection study in Delaware Estuary
- EPA Region II grant for well registration in New York and New Jersey

are one-time, special purpose grants which do not constitute part of our current expense budget and which do not add one single employee to our personnel roster. These special project tasks are performed by others via contracts with the Commission.

The Corps of Engineers, Environmental Protection Agency, Fish and Wildlife Service, U. S. Geological Survey, and other Federal agencies rely upon the Commission for on-going and day-to-day services, as well as special tasks when the need arises. An adequate core unit must be maintained by the Commission to realize the purposes set forth in the Compact which created the Delaware Commission. Congress didn't merely ratify an interstate water management agreement between the four states in 1961, they joined the United States to that Compact as an equal partner.

The states have been assuming a greater share of our current expense budget over the last several years and are proposing to do so again for fiscal year 1987. However, I hope and do request on behalf of the signatory states to the Delaware Commission that this Committee will include the figure of $289,000 for the Federal contribution to the Commission's fiscal year 1987 budget -- not the $200,000 figure requested by the United States Commissioner.

STATEMENT OF ROCKWOOD H. FOSTER, CHAIRMAN, INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN

THANK YOU, MR. CHAIRMAN, FOR THIS OPPORTUNITY TO SUPPORT THE FISCAL YEAR 1987 FEDERAL APPROPRIATION FOR THE INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN. MY NAME IS ROCKWOOD FOSTER. I AM THE CHAIRMAN OF THE COMMISSION AND ONE OF THREE COMMISSIONERS APPOINTED BY THE MAYOR OF THE DISTRICT OF COLUMBIA. I HAVE WITH ME, PAUL EASTMAN, EXECUTIVE DIRECTOR OF THE COMMISSION.

THE PRESIDENT'S FISCAL YEAR 1987 BUDGET RECOMMENDED NO APPROPRIATION FOR ICPRB. WE REQUESTED $79,000 AS THE FAIR FEDERAL SHARE OF THE TOTAL BUDGET OF $775,000. THE $79,000 IS THE SAME AMOUNT AS THE APPROPRIATION FOR THE CURRENT FISCAL YEAR.

THE ICPRB INCLUDES TWO COMMISSIONERS APPOINTED BY PRESIDENT REAGAN. THE THIRD OF HIS APPOINTED COMMISSIONERS RESIGNED DUE TO THE PRESS OF PERSONAL BUSINESS, BUT WE UNDERSTAND AN APPOINTMENT TO FILL THE VACANCY IS IN PROCESS. THE PRESIDENTIALLY-APPOINTED COMMISSIONERS REPRESENT THE INTERESTS OF THE FEDERAL GOVERNMENT, ONE OF THE LARGEST WATER USERS AND RIPARIAN LANDOWNERS ON THE RIVER. THE FEDERAL SHARE HISTORICALLY HAS BEEN EQUAL TO THE LARGEST OF THE REQUESTED STATE CONTRIBUTIONS, WHICH IS FROM MARYLAND. IT IS TANGIBLE EVIDENCE OF THE FULL AND EQUAL FEDERAL PARTNERSHIP IN A VITAL JOINT MISSION.

APPROPRIATION AUTHORITY

THE AUTHORITY FOR THE FEDERAL APPROPRIATION TO ICPRB IS ARTICLE IV OF THE POTOMAC BASIN COMPACT AS AMENDED BY PUBLIC LAW 92-407, 91st CONGRESS, IN SEPTEMBER 1970. IT STATES "THE MONEYS NECESSARY TO FINANCE THE COMMISSION IN THE ADMINISTRATION OF ITS BUSINESS IN THE CONSERVANCY DISTRICT SHALL BE PROVIDED THROUGH APPROPRIATIONS FROM THE SIGNATORY BODIES [THAT IS, THE DISTRICT OF COLUMBIA, MARYLAND, PENNSYLVANIA, VIRGINIA AND WEST VIRGINIA]

AND THE UNITED STATES..." CONGRESS HAS REAFFIRMED ITS ORIGINAL MANDATE BY APPROPRIATING FUNDS TO THE COMMISSION FOR A FEDERAL SHARE EVERY YEAR BEGINNING WITH FISCAL YEAR 1949.

YOU HAVE OUR BUDGET JUSTIFICATION SO I WILL ONLY BRIEFLY HIGHLIGHT MAJOR WORK PROGRAM ITEMS IN THIS SUMMARY STATEMENT.

COOPERATIVE WATER SUPPLY OPERATIONS

THE ICPRB SECTION FOR COOPERATIVE WATER SUPPLY OPERATIONS (CO-OP) DEVELOPED AND IS IMPLEMENTING THE TECHNICAL FRAMEWORK FOR THE LOW-COST, LARGELY NON-STRUCTURAL, SOLUTION WHICH IS ASSURING ADEQUATE WATER FOR THE NATIONAL CAPITAL AREA INTO THE NEXT CENTURY. THE EIGHT AGREEMENTS SIGNED IN 1982 BY ICPRB, THE FEDERAL GOVERNMENT, THE DISTRICT OF COLUMBIA, MARYLAND, VIRGINIA AND TWO REGIONAL WATER UTILITIES INSTITUTIONALIZED THE FRAMEWORK AND THE ARMY CORPS OF ENGINEERS ACCEPTED IT AS BY FAR THE BEST SOLUTION IN ITS 1983 REPORT TO CONGRESS. THE SAVINGS OF $200 MILLION IN CAPITAL COSTS AS COMPARED WITH THE LEAST COSTLY OF PREVIOUSLY RECOMMENDED SOLUTIONS ARE IN STARK CONTRAST TO OUR FEDERAL APPROPRIATION REQUEST OF $79,000.

CO-OP'S DROUGHT MANAGEMENT SYSTEM DEPENDS ON (1) EARLY DETECTION OF DROUGHTS, BASED ON LONG-RANGE STREAMFLOW FORECASTS, (2) ACCURATE SHORT-TERM WATER USE AND SUPPLY FORECASTS DURING DROUGHT PERIODS, AND (3) OPTIMAL ALLOCATION OF SUPPLIES ON A REGIONAL BASIS DURING DROUGHT PERIODS.

ALTHOUGH POTOMAC RIVER SUMMER FLOWS WERE BELOW NORMAL LAST YEAR, THEY WERE ADEQUATE TO SUPPLY ALL WITHDRAWAL NEEDS AS FORECAST BY CO-OP IN THE SPRING. NEVERTHELESS, THE UTILITIES HELD RESERVE WATER IN LOCAL RESERVOIRS UNTIL CO-OP SHORT-TERM WATER USE AND SUPPLY FORECASTS DURING THE LOWEST FLOW MONTH OF SEPTEMBER CONCLUDED NEITHER THE LOCAL RESERVES NOR WATER SUPPLY RELEASES FROM THE UPSTREAM RANDOLPH LAKE (FORMERLY KNOWN AS BLOOMINGTON) WOULD BE NEEDED. AT THE SAME TIME, CO-OP, THE WATER UTILITIES AND THE CORPS OF ENGINEERS HELD THEIR ANNUAL DROUGHT EXERCISE IN WHICH CO-OP SIMULATES ON ITS COMPUTER SEVERE DROUGHT CONDITIONS AND THE NECESSARY COORDINATED OPERATIONS OF

ALL UPSTREAM AND LOCAL RESERVOIRS AND INTAKES TO COUNTER THE SIMULATED EXTREME LOW POTOMAC FLOWS. THUS ALL CONCERNED REHEARSE ANNUALLY THE NECESSARY OPERATING PROCEDURES, INCORPORATE IMPROVEMENTS IN COMPUTER PROGRAMS AND OTHER ASPECTS OF THE COORDINATED OPERATIONS, AND ARE PREPARED FOR ANY EXTREME DROUGHT CONDITIONS WELL INTO THE NEXT CENTURY.

ALGAE BLOOMS

ICPRB CONTINUES TO RESPOND TO THE CHALLENGE OF A LEADERSHIP ROLE IN CONTINUING THE IMPROVEMENT OF WATER QUALITY IN THE POTOMAC ESTUARY, THE LARGEST ARM OF CHESAPEAKE BAY. IT IS EVEN MORE IMPORTANT BECAUSE OF THE EXTRAORDINARY BLUE-GREEN ALGAE BLOOM IN THE UPPER POTOMAC TIDEWATER DURING THE SUMMER OF 1983 AND LESSER BLOOMS IN SUBSEQUENT YEARS.

IN EARLY 1985 A PANEL OF ALGAE AND ESTUARINE EXPERTS COMPLETED ITS ASSESSMENT OF THE ALGAE PROBLEM AND CONCLUDED THAT THE RELEASE OF PHOSPHORUS FROM THE SEDIMENTS WAS A MAJOR CONTRIBUTOR TO THE 1983 BLOOM ALONG WITH THE UNUSUAL WEATHER AND FLOW CONDITIONS. ICPRB AND OTHERS ON THE POTOMAC STRATEGY COMMITTEE (USEPA, DC, MD, VA, AND THE METRO WASHINGTON COUNCIL OF GOVERNMENTS) ARE FOLLOWING UP THE EXPERT PANEL RECOMMENDATIONS TO DETERMINE ALTERNATIVES FOR CONTROLLING SUCH DAMAGING BLOOMS IN THE FUTURE. ICPRB'S ROLE INCLUDES SUCH WORK AS DETERMINING THE PROBABLE FREQUENCY OF CRITICAL WEATHER AND FLOW CONDITIONS FOR ALGAE BLOOMS; DEVELOPING INFORMATION ON CHARACTERISTICS OF SPECIFIC ALGAE SPECIES OF CONCERN; CALIBRATION AND VERIFICATION OF A PREDICTIVE SEDIMENT AND NUTRIENT RUNOFF MODEL IN THE MONOCACY SUB-BASIN, A MAJOR CONTRIBUTOR OF SEDIMENT AND NUTRIENTS TO THE RIVER; AND EVALUATION OF BENEFITS OF ACHIEVING ALTERNATIVE GOALS FOR REDUCING THE FREQUENCY AND INTENSITY OF THE ALGAE BLOOMS.

SEDIMENT AND NUTRIENTS

ICPRB IS CONTINUING TO FOCUS OTHER STUDY EFFORTS ON THE TRANSPORT OF SEDIMENT AND ASSOCIATED NUTRIENTS TO THE ESTUARY

FROM NONPOINT SOURCES SUCH AS AGRICULTURE IN THE UPPER BASIN. ESPECIALLY PHOSPHORUS, WHICH FREQUENTLY CAN LIMIT ALGAE GROWTH IN FRESH WATER SYSTEMS SUCH AS THE POTOMAC TIDAL RIVER, ADHERES TO SEDIMENT PARTICLES ERODED FROM THE UPPER BASIN. SEDIMENT IS TRANSPORTED SLOWLY DOWNSTREAM FROM ONE FLOOD PLAIN LOCATION (AND OTHER STORAGE SITES) TO ANOTHER. FOR EXAMPLE, DURING THE FLOOD IN NOVEMBER OF LAST YEAR, TOP SOIL WAS COMPLETELY WASHED AWAY FROM SOME CULTIVATED LANDS IN THE POTOMAC SOUTH BRANCH SUB-BASIN AND REDEPOSITED IN OTHER LOCATIONS TO LEVELS NEAR THE TOPS OF CORN STALKS. COMMISSION STAFF WILL BE DEVELOPING A CONCEPTUAL SEDIMENT TRANSPORT MODEL WHICH WILL ALLOW THE ROUTING AND STORAGE OF SEDIMENT TO BE QUANTIFIED FOR CRITICAL RIVER SEGMENTS AND SUB-BASINS. CONCEPTUAL TRANSPORT MODELS ON SUCH A LARGE WATERSHED AS THE POTOMAC BASIN MAY BE THE ONLY WAY TO PROVIDE A VALID REPRESENTATION OF SEDIMENT AND ASSOCIATED NUTRIENT DELIVERY TO THE TIDAL RIVER AND ESTUARY. THUS THE COST-EFFECTIVENESS OF CHANGES IN UPPER BASIN LAND MANAGEMENT PRACTICES CAN BE EVALUATED IN TERMS OF THEIR IMPACT ON THE TIDAL POTOMAC AND BAY.

EDUCATION AND INFORMATION

EDUCATION AND INFORMATION ALSO ARE IMPORTANT ACTIVITIES OF COMMISSION. THE MONTHLY "POTOMAC BASIN REPORTER" IS THE MOST WIDELY READ NEWSLETTER ABOUT WATER QUALITY AND OTHER WATER RESOURCES IN THE BASIN AND IS A SOURCE OF INFORMATION FOR NOT ONLY THE PUBLIC BUT ALSO FEDERAL, STATE AND LOCAL AGENCY PERSONNEL. THE COMMISSION ALSO PUBLISHES PERIODIC REPORTS ON WATER QUALITY CONDITIONS IN THE BASIN AND OTHER SUBJECTS OF SPECIAL CONCERN. FOR EXAMPLE, WITHIN A MONTH OR SO WE WILL BE DISTRIBUTING A NEW SPECIAL PUBLICATION ON "THE POTOMAC ESTUARY AND THE BAY". IT WILL CLARIFY MANY QUESTIONS IN THE PUBLIC MIND

ABOUT THE RELATIONSHIP OF THE POTOMAC TO THE BAY, AS WELL AS SUBJECTS SUCH AS NUTRIENTS, SEDIMENT, ALGAE, TOXICS AND AQUATIC PLANTS. IT ALSO WILL PROVIDE UP-TO-DATE INFORMATION ON WHERE WE ARE AND WHERE WE'RE HEADED WITH PROGRAMS TO FURTHER IMPROVE THE TIDEWATER POTOMAC.

CONCLUSION

AS WE HAVE TESTIFIED IN PREVIOUS YEARS, ICPRB PLAYS A UNIQUE INTERGOVERNMENTAL ROLE IN THE POTOMAC BASIN. IT HAS PUT FEDERALISM INTO SUCCESSFUL PRACTICE FOR 45 YEARS. WITHOUT FEDERAL PARTICIPATION, THERE WILL BE AN EMPTY PLACE AT THE TABLE. FEDERAL PARTICIPATION ENHANCES EFFICIENCY AND EFFECTIVENESS OF THE ESSENTIAL LOCAL-STATE-FEDERAL RELATIONSHIPS SO VITAL TO THE NATIONAL CAPITAL AND OTHER NATIONAL INTERESTS IN THE BASIN. I FEEL STRONGLY THAT THE BENEFITS TO THE FEDERAL GOVERNMENT FAR EXCEED THE COST OF THE $79,000 APPROPRIATION WHICH WE ARE REQUESTING.

THANK YOU AGAIN FOR THE OPPORTUNITY TO TESTIFY, AND NOW MR. EASTMAN AND I WILL BE HAPPY TO ANSWER YOUR QUESTIONS.

INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN

Fiscal Year 1987 Budget Justification
(October 1, 1986-September 30, 1987)

A. HISTORY:

The Interstate Commission on the Potomac River Basin (ICPRB) was created with the Potomac Basin Conservancy Compact of 1940 by the signatory bodies, i.e., the Commonwealths of Virginia and Pennsylvania, the States of Maryland and West Virginia, and the District of Columbia. The 1940 Compact was developed for the purpose of controlling pollution in the Potomac drainage area and the U.S. Congress approved it on July 11, 1940. The signatory bodies later ratified amendments to the Compact to broaden the Commission's coordination, investigation, and education responsibilities to include "development, utilization and conservation of the water and associated land resources" of the basin. The U.S. Congress approved the amendments with the passage of Public Law 91-407 on September 25, 1970. Members of the Commission are appointed by the Chief Executive (Governor or Mayor) of each signatory body according to provisions of its ratifying statue and by the President for the federal government.

B. SERVICE AREA:

The service area covers the 14,700 square miles of the Potomac drainage basin in the District of Columbia and parts of Maryland, Pennsylvania, Virginia and West Virginia, including several thousand square miles of national parks and forests and other federally-owned lands.

C. ORGANIZATION:

All ICPRB responsibilities under the Compact are vested in the Commission which is administered by the Commissioners (three plus alternates from each of the four states, the District of Columbia and the federal government) through an executive director and staff located in Rockville, Maryland. The Commissioners meet quarterly in March, June, September and December to carry out their policy direction and other responsibilities. Between quarterly meetings, this function is vested in the Executive Committee which is composed of one member from each jurisdiction and meets on the call of the Chairman.

D. WORK PROGRAM:

1. Water Supply --

Implementation of the Potomac Water Supply Coordination Agreement of July 22, 1982 for management of upper basin storage reservoirs (Bloomington Lake and Savage River Reservoir) and downstream water supply withdrawals in the Metro Washington Area through the CO-OP Section (Cooperative Water Supply Operations on the Potomac). ICPRB CO-OP has developed and will continue to refine and operate the computerized analytical programs for cooperative operations of reservoirs and withdrawals to assure water supply reliability, maintenance of streamflows to protect water quality and aquatic ecosystems, and maximization of benefits to other reservoir purposes. The cooperative operations coordinated by ICPRB CO-OP have enabled Metro Washington utilities to avoid the threat of water use restrictions such as those enforced as early as May 1985 by users of the Delaware River and other sources in PA, NJ and NY; also they have eliminated the need for additional reservoir storage in the upper Potomac basin until well after the year 2000, thus saving a minimum of an estimated $250 million as proposed in earlier plans.

2. Water Quality --

a. ICPRB's major water quality program emphasis will be to assist the states and EPA in the continuing implementation of Chesapeake Bay clean-up initiatives, coordinated by the State/EPA Executive Council (VA, PA, MD, DC and USEPA) and its Implementation Committee and Subcommittees. ICPRB's Chesapeake Bay role calls for continuation of its traditional leadership and coordination under the Potomac Basin Interstate Compact for the Potomac arm of the Bay, which is second only to the Susquehanna River as a catchment area draining to the Bay. Under current arrangements, continuation of the Potomac estuary clean-up strategy is implemented through the Potomac Strategy State/EPA Management Committee (USEPA, DC, MD, VA, ICPRB and Metro Washington Council of Governments).

ICPRB's work in cooperation with the Potomac Strategy Committee especially focuses on the determination of additional point and nonpoint source controls, if any, to meet tidewater eutrophication goals. This includes (1) determining the frequency of critical weather and flow conditions for algae blooms, (2) developing information on characteristics of specific algae species of concern, (3) calibration and verification of a predictive sediment and nutrient runoff model of the Monocacy sub-basin, a major contributor of sediment and nutrients to the river, and (4) evaluation of benefits of achieving alternative goals for reducing the frequency and intensity of the algae blooms.

b. Conduct of planning studies on sediment and nutrient transport from upper basin nonpoint sources and the effectiveness of controls for reducing nonpoint source contributions to estuary and bay pollution problems. This includes development of a conceptual sediment transport model which will allow the routing and storage of sediment to be quantified for critical river segments and sub-basins. Such a model may be the only way to provide a valid representation of sediment and associated nutrient delivery to the tidal river as a basis for cost-effectiveness estimates of possible control decisions.

c. Development of recommended water demand and supply management strategies for decreasing the severity, duration and frequency of low flows and related adverse impacts on water quality and aquatic life in the river and estuary; also for minimizing instream conflicts between water supply and water quality and for enhancing fisheries and recreational benefits below the Savage River and new Randolph (formerly named Bloomington) reservoirs in the upper basin and downstream to the Potomac tidewater. This will continue to be achieved in part through the Instream Flow Committee composed of representatives from federal and state water and fisheries agencies and chaired by ICPRB.

d. Coordination of the Potomac basin surface water quality monitoring network by means of a task force of state and federal representatives, and evaluation and reporting on pollution control progress and water quality trends throughout the five-state basin.

e. Development and refinement of technical tools, such as mathematical computer models for interpreting monitoring information and for evaluating the attainment of water quality standards and opportunities for maximizing benefits of wastewater treatment and other pollution controls, and for maintaining interstate compatibility of standards and pollution control programs.

f. Maintenance and improvement of the toxic spill model for the Potomac and major tributaries as an early warning system for water supply intakes.

g. Promotion and assistance with other major water-related projects and research to solve problems of interstate significance, as needed.

3. Public Education and Information --

Publication of 10 issues each year of the Potomac Basin Reporter, the only basin-wide current event water information periodical; organization and conduct of periodic State of the Potomac public meetings and publication of reports for the lay public; continuation of summer Potomac River Watch weekly reports about water quality and recreational opportunities for use by the news media; continuation of the news media outreach program about the basin's water resources, especially the improved water quality, recreation and other values of the Potomac and its tributaries throughout the basin; and maintenance and updating of the library of Potomac basin information materials for use by technical organizations and the public and for responding to the usual 100 or more annual requests for Potomac-related educational material and information.

E. PROPOSED FISCAL YEAR 1987 BUDGET:

Table 1 shows proposed expenditures in FY 1987 by major categories along with actual and budgeted expenditures for FY 1985 and 1986. Table 2 shows proposed member state and federal appropriations and anticipated income from other sources for FY 1987 together with actual and budgeted amounts for FY 1985 and FY 1986.

TABLE 1

INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN
Proposed Expenditures for Fiscal Year 1987
(Including Actual and Budgeted amounts for FY 1985 & FY 1986)

Major Expenditure Categories(1)	Actual FY 1985 ($)	Budgeted FY 1986 ($)	Proposed FY 1987 ($)
Personnel Salaries and Benefits	543,800	540,000	570,000
Rent, Office Expense, Travel, etc.	134,800	124,000	125,000
CO-OP Section Computer Equipment	16,000	30,000	10,000
Publications	21,600	24,000	30,000
Consultants & Contracts	37,400	57,000	20,000
Total Expenditures	753,600	775,000	755,000
Total Staff(2)	14.6	14.8	15

(1) Includes expenditures of Section on Cooperative Water Supply Operations on the Potomac (CO-OP) organized under Article III of the Potomac Basin Compact.

(2) Includes permanent part-time employees and temporary summer technical aides.

TABLE 2

INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN
Proposed Contributions and other Projected Income for Fiscal Year 1987
(Including Actual and Budgeted amounts for FY 1985 and FY 1986)

Source*	Actual FY 1985 ($)	Budgeted FY 1986 ($)	Proposed FY 1987 ($)
Signatory States			
District of Columbia	41,500	45,500	45,500
Maryland	61,000	78,600	78,600
Pennsylvania	20,800	21,400	21,400
Virginia	70,200	74,200	74,200
West Virginia	19,800	20,300	20,300
States Subtotal	213,300	240,000	240,000
Direct U.S. Appropriation	70,000	79,000	79,000
USEPA Annual Program Grant, Sec.106 Fed.Clean Water Act	179,900	160,000	160,000
CO-OP Contribution from Water Utilities(1)	174,900	176,000	160,000
Other Sources (Spec.Proj's, Int., Pub.Sales, etc.)	82,000	118,000	90,000
Carryover from Prev. Year	89,000	56,000	54,000
TOTAL	809,100	829,000	783,000

*The Congressionally approved interstate compact establishing the Commission specifies that it shall be financed 'by appropriations from the signatory bodies and the United States' with the pro rata contributions to be 'based on such factors as population, the amount of industrial and domestic pollution and a flat service charge.' The formula for state contributions includes a flat service charge of $15,000 with 3/4 of the remainder prorated by the 1980 census population in the basin and 1/4 by major industrial and municipal point source pollution. The fair share contribution of the United States has been agreed to equal the largest of the state contributions due to the impact of the National Capital and the federal lands and other interests in the basin.

(1) Washington Suburban Sanitary Commission (MD), Fairfax County Water Authority (VA), and the Dept. of Public Works (DC).

INTERSTATE COMMISSION ON THE POTOMAC RIVER BASIN

SUMMARY OF ACCOMPLISHMENTS

Fiscal Year 1985 (Oct. 1, 1984 to Sept. 30, 1985)

Water Quality Monitoring and Evaluation

Normal duties of supervising, maintaining and managing the Baseline Water Quality Monitoring Network (BWQMN) continued throughout the year. The Commission's 1982-1983 Water Quality Status Report was completed and printed. During its preparation, the USEPA STORET water quality data base and retrieval system was used extensively.

Significant progress was made on the data acquisition and analysis leading to Long Term Water Quality Trend Assessment. The results will be produced in a report covering the period 1973-1984. A work plan was developed, progress is on schedule, and completion of a draft is due in January 1986. Retrieval and preliminary analysis of data was carried out for selected stations among the 72 in the BWQMN to be used as prototypes for the report. A master set of nearly 100 water quality monitoring stations in the basin has been established which includes the 72 BWQMN stations plus additional stations taken from previous ICPRB reports (Critical Areas in the Potomac River Basin and Potomac River Basin Water Quality Status and Trend Assessment 1962 - 1973). Water quality data for nearly all of these stations has been acquired. Maryland Department of Health and Mental Hygiene, Office of Environmental Programs, has offered assistance in the transfer of data from the later years for the Maryland stations where the STORET records are incomplete. Procedures to install these data on the FORTUNE computer at ICPRB have been successfully developed and tested. Transfer of the full data set from Maryland is under way. Computer programs developed and adapted by staff were used to examine monotonic trends as the first step in the assessment. The problem of seasonality is avoided by comparing only observations from the same month of the year. Using the parameters and trends from this test, a more detailed examination of each station was done including an analysis of point source controls implemented in the ten-year period. Concurrently, interpretive reach-specific background research for each of the stream segments is underway. Technical assistance was offered to the basin states to aid the timely completion of their April 1986 Clean Water Act 305(b) water quality assessment reports to USEPA. Coordination was begun between ICPRB staff and two representatives from the U.S. Geological Survey who are beginning a long term trend report for the Potomac River above Chain Bridge. Mutual assistance will continue as both trend reports develop.

Staff attended a training seminar at USEPA Region III in Philadelphia which demonstrated the new program developed by USEPA's Water Quality Analysis Branch (WQAB) which integrated STORET water quality data with stream flow and effluent data. Analysis may be done by designating stream reaches, and graphic outputs are possible. Staff began using the WQAB integrated data base and the Permit Compliance System (PCS) with the screening model described below. Quick access to effluent data would be a valuable addition to the screening model with regard to point source discharges and their relative impacts.

A preliminary report was completed and submitted to USEPA Region III which describes work to develop a methodology for using routine monitoring data in real time water quality management. Several statistical methods for identifying those field observations which differed significantly from historical data were developed. These included: (1) comparing the deviations of the observations with the standard error of regressions of flow and water quality parameters and (2) simple standardized distances from the means of previous observations. The outliers indicate situations which warrant further investigation. The analysis was performed on stations on the North Branch near Cumberland, Maryland, the South River near Waynesboro, Virginia, and the Monocacy River near Frederick, Maryland. In addition, the techniques were used on two stations on the Monocacy River above and below the city of Frederick, an area of known water quality degradation.

STORET data retrievals were provided for citizens, federal and state agencies and university researchers. Data requests included personnel from Johns Hopkins University, Martin Marietta Environmental Systems, U.S. Geological Survey (USGS), District of Columbia, and the Metropolitan Washington Council of Governments.

Staff activities with the Washington Area Waterfront Action Group (WAWAG) continued as a WAWAG member, and WAWAG Fishing Committee Chairperson. The DC Consumer and Regulatory Affairs, Fishery Management Plan Subcommittee was assisted in the preparation of a Fishery Management Plan for the District of Columbia. Additional assistance and coordination was provided to the US Department of Commerce, National Marine Fisheries Service on urban and handicapped fishing opportunities. Membership in the Operations Committee, D.C. Department of Recreation entailed assistance in planning and organization of the Potomac Riverfest '85 which took place on June 8 and 9, 1985.

The Commission's Hydrilla Regional Action Committee (HYDRAC), following a year and a half of information exchange through public forums and mailings, has terminated its existence. In its place, the U.S. Army Corps of Engineers and the Metropolitan Washington Council of Governments (MWCOG) have formed the Potomac Hydrilla Management Committee (PHMC) on which the Commission is represented. The PHMC will be concerned primarily with arranging for state and local cost-sharing for an acceptable Hydrilla management and control program which is under development by the Corps of Engineers.

Staff again reviewed daily precipitation, maximum temperature and river flow this winter in order to maintain an awareness of the potential for objectionable taste and odor problems in water drawn from the Potomac. In mid-February conditions did develop which were consistent with the potential for problems, and a memo was distributed to Metro Washington water utilities to make them aware of the situation. Shortly thereafter, taste and odor problems did occur, and a meeting of representatives from six utilities was arranged by ICPRB to discuss the problem and exchange information on the effectiveness of various treatment methods. A summary of these activities was presented to the Chesapeake Section of the American Water Works Association at their 1985 annual meeting and conference.

Basin and Interstate Planning Studies and Coordination

The National Stream Quality Accounting Network (NASQAN) data set was transferred from the USGS computer to the Fortune computer at ICPRB. The flow data were reorganized and lagged using the time-of-travel model. The techniques for using the Minitab statistical analysis program to run large batch jobs at night were developed.

Various methods for the separation of baseflow and direct runoff were evaluated for analysis of nonpoint source pollution and nutrient transport. The two flow components were seen to have differing characteristics in the transport of nitrogen. A report was prepared and submitted to USEPA Region III.

Results of the 1984 summer data collection project at Sams Creek in the Monocacy sub-basin have been assessed. Analysis of field reconnaissance and cross-sections suggest that sediment storage is a significant portion of the total sediment load in this small stream. The stream channel and cross-sections will be surveyed at regular intervals to examine seasonal cycles. Data analysis was continued as additional data became available. Particle size data and the Rural Clean Water Project water quality data were added to the computer data set. The results of the recent field work and data analysis were presented at the December 1984 American Geophysical Union meeting.

Work by Metro Washington Council of Governments (MWCOG) on the main stem Potomac, in preparation for the HSPF (Hydrological Simulation Program Fortran) nonpoint source modeling, was reviewed. We will continue to meet with MWCOG periodically. In addition, an organizational meeting of HSPF users' group was attended. This group will act as a review board for HSPF applications in the Chesapeake Bay area.

A draft paper about the sediment work has been prepared for submittal to The Water Resources Research Journal. The paper includes parts of the previous ICPRB working paper and summer field observations. Further sediment work which focuses on the storage of sediment in the mainstem Potomac and is supported by Clean Water Act 205(j) funds, was essentially completed. It was performed with consultation from Professor Andrew Miller of the Department of Geography of the University of Maryland. The initial reconnaissance of the river between Point of Rocks and Great Falls has been completed. More detailed analyses were made of the channel margins between the mouth of the Monocacy and Seneca Pool. Samples of margin and channel materials were collected in order to characterize the sediments stored. Samples were processed for particle size analysis at the Johns Hopkins University. Channel cross-sections were measured in seven representative reaches. A longitudinal profile was measured from Point of Rocks to Seneca Pool. Sediment samples were taken for nutrient analysis from three types of storage environments and delivered to Occoquan Monitoring Laboratory for processing. This completed the field work required of the project. A revised work plan was delivered to MWCOG at their request. The final report will be completed in early December.

The time-of-travel model was extended to cover the Potomac South Branch and the Shenandoah rivers. A report summarizing the status and applicability of the model was submitted to USEPA, Region III.

Support was provided to the Technical Subcommittee (SEPTEC) of the State/EPA Potomac Strategy Management Committee (SEPSMC) in order to coordinate Interim Potomac Estuary studies leading to regulatory decisions with respect to waste load allocations. Staff also provided support to the Expert Panel Study of the 1983 Potomac algae bloom which was completed in February 1985.

Following the completion of that study, staff worked closely with the SEPTEC, in deliberations of the results of the study, planning for additional work, and participating in the resulting studies.

Of immediate concern to SEPTEC and SEPSMC were the requests by Blue Plains, Lower Potomac, and Arlington sewage treatment plants (STP's) for permits to expand their capacity. In addition, the Virginia STP's requested permission to return to the seasonal phosphorus removal policy that was in effect until the 1983 algae bloom. SEPTEC decided to fund a short-term modeling study of the effects of these permit changes on water quality. ICPRB managed the study (referred to as the Interim Study) while the modeling work was subcontracted to the MWCOG. Staff worked at MWCOG as staff support for their part of the Interim Study. SEPTEC has used the results of the Interim study to recommend new effluent discharge limits when sewage treatment plant (STP) permits are renewed.

The Interim Study used the Potomac Eutrophication Model (PEM) to evaluate the effects on summertime chlorophyll (Clr-a) concentrations of alternative STP treatment policies. Clr-a is an index of the presence of algae. PEM indicated that the requested increase in treated flows, at current effluent pollutant concentrations, would result in a 10-20 ug/l increase in Clr-a during a dry summer. However, the modeling work suggests that, if the STP flows increase but effluent pollutant concentrations are decreased so that the total load of pollutants remains constant, then there is no significant change in Clr-a levels. The SEPTEC has recommended that STP expansions be approved but that effluent concentrations of total phosphorus be decreased such that there will be no increase in the total load of phosphorus to the Estuary.

The Interim Study also used PEM to predict the fate of point source (from STP's) and nonpoint source phosphorus at different seasons of the year. The purpose was to provide additional information to be used to decide whether to permit wintertime relaxation of phosphorus treatment standards. The modeling runs showed that the water column concentration of total phosphorus declines during a period of 30 to 60 days from winter levels to summer levels if resuspension from the sediment layer is ignored. The model runs also show that nonpoint source phosphorus in the sediment is 5 to 10 times as much as that from point sources. While these results suggest that a relaxed winter treatment policy should not have much effect on summer Clr-a levels, the conclusion is limited by lack of information on the sediment resuspension process and on the relative contribution of point source vs nonpoint source phosphorus to algal growth. SEPTEC, taking a conservative approach to the problem given these uncertainties, has recommended that winter relaxation of phosphorus treatment not be permitted.

A third task of the Interim study was to evaluate the potential for reducing high pH levels by having STP's increase their effluent alkalinity. The Expert Panel report implicated high pH as contributing to the 1983 algae bloom and suggested that it could be controlled by increasing alkalinity. Staff assisted MWCOG by developing PEM input data for alkalinity for 1983. These data included ambient water quality in the Potomac, point source data from STP's, and data from tributaries as an indication of nonpoint loadings to the estuary. The Interim study determined that increasing the alkalinity will not affect pH levels.

An investigation, funded by the DC Department of Environmental Services, of the relationship of water temperature and river flow, and dissolved oxygen in the Upper Potomac Estuary has been completed. This work may be used to help estimate the frequency of "critical" hydrometeorological conditions with respect to algae growth.

Through the State/EPA Potomac Technical Subcommittee, staff also participated in the development of a program of technical studies designed to address issues related to determining final waste load allocations for the Potomac Estuary and its embayments. These issues include: a) various improvements to the Potomac Estuary Model (PEM), b) improved understanding of the role of the sediment layer as a source and sink of nutrients, c) deciding water quality goals, and d) evaluating treatment alternatives for meeting those goals.

ICPRB Staff expanded its ongoing work on the optimal operation of Bloomington Lake water quality storage on the Potomac North Branch to evaluate the interaction of modified flood control operation and water quality operation. The project identified the impacts of joint operation on authorized project purposes and strategies for minimizing the costs such changes would incur.

A linear programming code has been installed on the computer system and is operational. This allows determination of optimal hourly flood control releases for Bloomington reservoir. A point process model of precipitation on the North Branch, developed by staff, was combined with flow routing models developed by the Corps of Engineers for the drainage above Cumberland, MD. Work was initiated in the automatic calibration of short term streamflow forecasting models using a non-linear search algorithm which has been installed on the computer. Application of this forecasting technique to sediment transport on the Potomac was explored.

ICPRB provided Maryland Department of Natural Resources, Water Resources Administration (DNR-WRA) technical support for the state's proposed consumptive water use regulation. Staff provided clarification on an informal basis to Md. Power Plant Siting Committee and commented on the draft regulation published in the Maryland REGISTER. An amended version of the regulation has been published.

The current phase of staff work on Enhanced Freshwater Inflow to the Chesapeake Bay was completed with the submittal of a draft report for comment to DNR-WRA. This project examined the potential for and impacts of enhanced freshwater flow through modified reservoir operation on the Potomac, and the potential for similar gains on the Susquehanna. Dramatic changes in the hydrology of the Bay are unlikely with the limited volume of regulating storage available. Locally, significant benefits do appear attainable in the form of in stream flow maintenance, support for increased consumptive demands, and local water quality improvements in the Potomac North Branch. Potentially beneficial directions for future work have been identified in water quality operation, real-time flood control operation, and monitoring network design.

A survey of charges for community sewerage and water use was undertaken. A report of that survey and an assessment of the the adequacy of those charges was prepared and submitted to USEPA, Region III.

Advice and assistance was provided to the Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) on their nonpoint source (NPS) assessment project. The NPS Format was reviewed and revised as requested. Work on the data management system was performed. Sections of the system were customized to aid in data input and printout procedures. A briefing book was prepared to help in teaching ASIWPCA staff to use the data management software. A presentation was made to describe the use of the system for data analysis purposes. On-going advice was provided for data entry and management questions. The reporting format was assessed for national summary potential, with primary focus on Parts III and IV of the project. A checklist was revised and implemented to evaluate each state's submittal for internal consistency.

A revised proposal was developed for presentation to the U.S. Dept. of Interior Office of Surface Mining (OSM) for funds to produce an effectiveness ranking of acid mine drainage abatement sites in the Potomac North Branch. The initial proposal submitted jointly by Maryland and West Virginia was returned from OSM with voluminous comments. Commission staff worked with the states to produce a more detailed proposal which will meet the requirements of OSM and allow the project to begin.

ICPRB served on the Shenandoah River-Potomac River Tributaries Subarea Advisory Committee of the Virginia State Water Control Board. Commission staff took part in discussions of the previously circulated material as well as issues brought up on the spot. The major topic of concern was the Board's progress in developing coordinated water supply plans on the basis of geographical drainage basins. The plans are to incorporate water demand forecasts with available water resources, and include a detailed inventory of existing public and private water treatment and distribution systems. Reference material on the subject of water demand forecasting was provided to the Board's staff.

The Commission continued its work with the Middle Potomac River Basin Public Advisory Council of the Maryland Office of Environmental Programs. The subject matter discussed in meetings during the year included issues affecting the management of point sources of water pollution, of the quantity and quality of groundwater, and of residual liquid and solid waste products which may find their way into surface or groundwater courses. ICPRB staff also worked with the State of Maryland to complete pilot nonpoint source reports in the new format developed by ASIWPCA.

In support of the cooperative Chesapeake Bay Program, four staff members attended the Pennsylvania Chesapeake Bay Conference in Millersville, PA, and participated in concurrent workshops on nonpoint source pollution, point source pollution, etc. Also, the Executive Director participated in several Chesapeake Bay Implementation Committee meetings.

Public Education and Information

Newsletter

The goal for the Newsletter, ten issues per year, was met. Highlights included coverage of the Anacostia waterfront, river safety (particularly in the Great Falls area), the algae problem, and the new District of Columbia fisheries management program. Bids for printing the Reporter were received, with the results that the printer will change to Envelopes Unlimited in Rockville, Md. beginning with the 1986 fiscal year. The mailing list is around 10,000 as the year ends, a significant increase having resulted from efforts associated with the spring Public Meeting in the Northern Neck of Virginia.

Other Publications

The 1982-83 Water Quality report was printed and distributed. The new 16-page format is a departure from previous reports to make the publication more readable and suitable for the general public and to lower the per unit costs. The design and literature research was completed along with a major portion of the text for the 16-page general public publication, "The Potomac & the Chesapeake." The latter is scheduled for distribution after the first of the year. The ICPRB and CO-OP brochures were reprinted.

A total of 1,822 publications were sold during the year with the Potomac/C&O map sets accounting for the bulk of the sales (89%), the Metro Washington Potomac map/poster (4%) and other publications (7%).

Projects

Three meetings were organized during the year, all three taking place in the spring. A public meeting was held in conjunction with the North Branch Public Opinion Survey in March at the Potomac State College in Keyser, West Virginia. Seventy people attended, and participated in a training program for telephone interviews. Some 600 telephone interviews were conducted by these volunteers in the Potomac North Branch area (specifically, Grant and Mineral counties in West Virginia and Allegany and Garrett counties in Maryland). Coding took place during the summer and analysis of the results will be completed sometime early in the next fiscal year. The purpose of the study, initiated in July, 1984, is to examine public perceptions in the North Branch Potomac area relative to water resource concerns, including acid mine drainage.

A public forum, "Anacostia: The Other River," was presented on April 20, 1985 in Anacostia with 95 people attending. Thirteen speakers addressed

Anacostia river water quality and shoreline concerns. The meeting was organized in support of the Washington Area Waterfront Action Group (WAWAG) and in preparation for an ICPRB publication scheduled in 1986.

The ICPRB Annual Public Meeting, "The Potomac & the Chesapeake" was held in Virginia May 16-18, with sessions at several sites in the Northern Neck of Virginia. Governor Charles Robb of Virginia was the keynote speaker, complemented by some twenty speakers from Maryland and Virginia. One hundred-twenty people attended.

The 9th annual River Watch program (initiated in 1977) ran from June through September 1. The program covers water conditions and events along the river from just above Hancock, Maryland down to Point Lookout, Maryland/Smith Point, Virginia . One radio station was lost but five were gained so that we now have 13 stations broadcasting the 5-minute program weekly. Fifteen river watchers provide information.

Other

New camera equipment was purchased to provide better quality visual material and greater in-house production capability. The Commission participated in the second D.C. Potomac Riverfest through the unit staff, and answering information requests continues to be an important function.

Requests for information from the public, students, consulting firms, and state and federal agencies were fulfilled.

A computerized cross reference catalog for our library holdings has been developed. The purpose of this facility is to promote more effective use of our library for the staff and for the public. Data entry will be completed in FY 1986. When completed the catalog system will allow rapid and convenient searches of library holdings by author, title, publisher, and by subject. A similar catalog has also been prepared, and was tested, for ICPRB REPORTER articles.

COOPERATIVE WATER SUPPLY OPERATION ON THE POTOMAC (CO-OP)
The Interstate Commission on the Potomac River Basin

Director's Annual Report
Fiscal Year 1985

FY 1985 saw the formalization and automation of most of CO-OP's forecasting and scheduling procedures, as well as updates to the demand and forecasting models. In addition, the NWSRFS programs have been transferred to CO-OP computers, and forecasts are now run at ICPRB. An extremely dry winter and early spring caused concern that an extreme drought might occur. This led to a number of actions on the part of the utilities (e.g. reductions in power generation, early filling of Little Seneca Lake) which demonstrated the practicality of cooperative action among the utilities. Rainfall almost twice normal in May substantially improved conditions, and rainfall during June, July and August was sufficient to ensure adequate supply. A lack of rainfall during September caused the Potomac to fall to its lowest level since the CO-OP agreements were signed in 1982.

I. Operations

A. Operational Forecasting

Routine water supply outlooks were started in April because of the extreme lack of rainfall from November through April. Initial outlooks showed a much higher than normal probability of drought. As a result, filling of Little Seneca Lake began ahead of schedule. The twice normal rainfall in May substantially reduced that probability, and near normal precipitation in June, July and August further improved the situation. An almost total lack of rain for the first weeks of September did push flows to their lowest levels since the CO-OP agreements were signed, however.

B. Drought Exercise

The 1985 Washington Metropolitan Area Drought Exercise took place during the last two weeks of July. It featured the successful testing of programs which nearly fully automate CO-OP's release and withdrawal scheduling procedures. Performance analysis of the demand forecasting components of the procedures indicated the need to update base demand information; the old forecasts were too low, particularly for the Fairfax County Water Authority. This was done at the end of the first week of the exercise. The updated forecast model performed well for the remaining week of the exercise.

II. Formalizing Existing Procedures and Training

A. NWSRFS Programming and Performance Analysis

CO-OP completed its programming tasks under its cooperative agreement with the National Weather Service. Jim Smith of CO-OP has been acknowledged for his substantial contribution to Version 5 of the NWSRFS. With the release of Version 5, CO-OP's direct access to the NWSRFS through the development system ended. As a result, the relevant portions of the code were transferred to the CO-OP computer and CO-OP forecasts are now run in-house. Negotiations are now under way to establish alternate links to the NWS machines so that NWS improvements to the RFS can be accessed by CO-OP, and so that backup forecasts could be made through the NWS if required.

B. Training

Training of utility personnel continued at a modest level throughout the year. Training was primarily limited by the workload of the prospective trainees.

C. Redraft and Update of CO-OP Technical Manuals

This activity was not completed during FY 1985, as time allocated was reprogrammed toward full automation of release and withdrawal scheduling activities. It will be carried forward into FY 1986.

III. Improving Operational Capabilities

A. Flood Control Potential of Local Reservoirs

Progress on this activity consisted of implementing the NWSRFS for each of the reservoirs in the basin, installing a linear programming package on the CO-OP computer, and some operational experience, including setting minimum levels in the Occoquan for limiting power generation. Substantial effort has been expended in analysis, and partial reports should be available in early FY 1986.

B. Coordination of Taste and Odor Control Operations

Analysis of historical data concerning the occurrence of taste and odor problems associated with local rain on snow covered ground led to the successful forecast of such an episode during the winter. CO-OP will continue to alert local utilities when the potential for such problems exists.

IV. Unscheduled Activities

A. Automation of Combined Forecast and Release Scheduling

The multiple operations of flow and demand forecasting and release and withdrawal scheduling and record keeping have been automated in a nearly self explanatory package. The package makes it much easier to train personnel in day to day drought operations and reduces the chance for error. Dan Sheer, Jim Smith and Roland Steiner all took responsibility for scheduling during the drought exercise, all using the new program. The use of the new programs was demonstrated to all utility staffs during the drought exercise, and annotated copies of the programs distributed.

B. Partial Automation of Long Range Forecasting Programs

In conjunction with the installation of the NWSRFS on the CO-OP computer, all analysis involved in producing the current CO-OP water supply outlooks was also automated. The last two outlooks were produced using the automated procedures.

C. Recalibration of Demand Forecast Models

During the drought exercise it became evident that the CO-OP demand forecaster was underestimating. Recalibration occurred during the exercise and performed successfully for the second week of the exercise.

V. Awards and Honors

CO-OP Hydrologist Jim Smith received two extraordinary honors during FY 1985; a Fulbright Fellowship, and one of very few USGS water research grants, much sought after by the research community. Jim is currently in Holland and will return in June to continue his work.

VI. Personnel

Dan Sheer will change status from ICPRB employee to consultant as he resigns to form his own firm, Water Resources Management Inc. He will continue in his capacity as Director until Jim Smith's return in June, when Jim will take over the reins. Stu Schwartz and Kathleen Hogan will fill Jim's shoes during his absence, and Roland Steiner, ICPRB's new Technical Director, will continue to provide assistance in the field of demand forecasting.

GARRISON DIVERSION UNIT, NORTH DAKOTA

Chairman HATFIELD. The Senator from North Dakota?

Senator BURDICK. Thank you.

Welcome to the committee, gentlemen. In your testimony, Mr. Duvall, you briefly discuss the $18 million fiscal 1987 request for the Garrison diversion unit. Could you, or perhaps Mr. Broadbent, please tell me the status of the Garrison project so far as the Interior Department is concerned?

Mr. BROADBENT. I think it might be better if we let the Secretary start out.

Senator BURDICK. Mr. Hodel, then, I will include you in the question.

Secretary HODEL. Thank you, Senator. That $18 million in the budget is targeted for shutdown, because we are assuming that we will not have authority to proceed with the project. As I know you are well aware, you and Senator Andrews were very active last year in obtaining administration support and approval for the Garrison project to go forward.

Unfortunately, the House of Representatives did not proceed, and I understand at Congressman Dorgan's request, a bill which would have permitted us to go forward was twice withdrawn, which left us in a position when we prepared this budget to assume that as of March 31 we would no longer have authority to go forward with the project. Therefore, the $18 million which is in the budget at this time is targeted for the shutdown activity on the Garrison diversion unit.

CLOSEOUT ACTIVITIES

Senator BURDICK. I wonder if you could give me some specifics on your plans of shutdown. Have they taken on some form at this moment?

Mr. BROADBENT. The legislation requires that the only thing that we can continue after March 31 is work on ongoing contracts that were awarded before October 1, 1985. There will be reduction-in-force notices going out to the personnel in Bismark. They have to have 30 days notice, which will be going out by the end of the month. There are other activities that must be taken at the same time in order to close down.

We will be looking at all of the contracts to see if we can continue some of those that were approved before October 1. It may not be appropriate to go ahead with some of them if they were awarded very recently, because it may be cheaper for the Government to close it and shut off the contract rather than complete it.

We will have some additional responsibility, and there is money in the 1987 budget for continued protection of the facilities that are already built and for public safety. There will be some fencing that has to be done and some things like that. But in essence, as of the end of February, we will be shutting down the project and sending out notices for reductions in force. We feel it is mandated by the law. We don't have any choice. We will be keeping enough people there to protect the facilities and to close down the complex.

MODIFIED PROJECT AUTHORIZATION

Senator BURDICK. Mr. Hodel and any one of the three, are you familiar with the compromise that Mr. Miller of the House and I worked out? Are you familiar with that compromise?

Mr. BROADBENT. Yes, I am, that was the December compromise which George Miller and yourself worked out. That was the one that we were referring to, that the Secretary was referring to that was withdrawn at the request of Congressman Dorgan in December, which was a compromise which would have allowed the Garrison project to remain under construction.

Senator BURDICK. You were in favor of that?

Mr. BROADBENT. We supported the compromise, yes.

Senator BURDICK. I think you have told me, but if you want to add more detail you can, as to how the $18 million for fiscal year 1987 will be spent, all for shutdown?

Mr. BROADBENT. Let us provide that to you for the record, but as I recall, about $2 million of it will be for continuing maintenance of those facilities that we have there that have to be protected.

Mr. DUVALL. There are a number of different options that we are looking at with respect to the most cost-effective way to shut the project down if we are ultimately faced with actually closing it down. We will supply for the record the detail regarding the fiscal year 1987 request for the Garrison diversion unit.

Senator BURDICK. I gather from what you said, then, there will be no new work started at this stage.

Mr. BROADBENT. Right, yes.

[The information follows:]

Garrison diversion unit, North Dakota—Fiscal year 1987

Work proposed—Principal supply works and general facilities	Program
Snake Creek pumping plant: Provides for continued operation, maintenance, site security, and freshening of Audubon Lake	$200,000
McClusky Canal: Provides for routine operations and maintenance, and continuation of survey contract, tree planting, noxious week control, and ditch cleaning and required activities associated with project shutdown	3,800,000
Lonetree Reservoir and dams: Provides for continued noxious weed control and land management activities	300,000
Oakes Test Area: Provides for completion of construction of the distribution system and required activities associated with project shutdown	3,361,000
West Side irrigation facilities: Provides for completion of required activities associated with project shutdown	300,000
Oakes Canal: Provides for completion of required activities associated with project shutdown	30,000
LaMoure irrigation facilities: Provides for completion of required activities associated with project shutdown	510,000
Central North Dakota Section:	
New Rockford Canal: Provides for completion of reach 1A and required activities associated with project shutdown	5,000,000
Upper James River improvement: Provides for completion of required activities associated with project shutdown	200,000
Lower James River improvement: Provides for completion of required activities associated with project shutdown	2,350,000

Garrison diversion unit, North Dakota—Fiscal year 1987—Continued

Work proposed—Principal supply works and general facilities	Program
Central North Dakota Section—Continued	
New Rockford irrigation facilities: Provides for completion of required activities associated with project shutdown	500,000
New Rockford extension irrigation facilities: Provides for completion of required activities associated with project shutdown	100,000
General facilities:	
Permanent operating facilities: Provides for completion of required activities associated with project shutdown	600,000
Fish and wildlife facilities: Provides for completion of required activities associated with project shutdown	700,000
Recreation facilities: Provides for completion of required activities associated with project shutdown	30,000
Other project costs: Provides for completion of required activities associated with project shutdown	19,000
Total	18,000,000

EMPLOYMENT IMPACT

Senator Burdick. How many employees will be RIF'd?

Mr. Broadbent. The projected employment level goes down from about 135 or 140 down to about 60 in 1987, and then after 1987, it goes down even further than that.

Senator Burdick. Those notices will go out the end of this month?

Mr. Broadbent. Yes.

Senator Burdick. Thank you, gentlemen.

Secretary Hodel. Thank you, Senator.

Central Utah Project

Chairman Hatfield. The Senator from Utah?

Senator Garn. Thank you, Mr. Chairman.

I have no questions. I would like to make a brief parochial statement, but first, I would like to compliment Bob Broadbent on the work that he has done. It has been a great pleasure to work with him in the last few years. Nevada's gain is our loss, but I would just like to thank you for the cooperation that you have shown me and my staff and for the excellent job you have done.

Mr. Broadbent. Thank you.

Senator Garn. Mr. Chairman, I think you are well aware of the difficulties we have had with the Central Utah Project over the years. The Bonneville unit, which is the current project we are having some problems with—particularly on the House side—was originally supposed to be finished in 1972. The major reason for the critics' concerns is cost overruns. And yet, the real reason we have been in the situation we are in is primarily because Congress underfunded the project all of those years, plus we had some environmental lawsuits. That is why we are now 14 years behind schedule and, without a doubt, the overwhelming reason that the Central Utah Project is costing more than it originally was supposed to cost.

LOCAL PROJECT SUPPORT

But the thing that I wanted to report to the committee today, so that it is clearly on the record, is that since this committee met a year ago, the Central Utah Project has made some significant advancements. On November 19, 1985, on a day that we thought not too many people would show up to vote in an election because of one of the heaviest early snowfalls in the history of the State—more than 3 feet in some places—the people of the Central Utah Water Conservancy District voted 73 percent in favor to obligate themselves to pay back $335 million, in addition to $165 million they had agreed to pay in 1965 to the Federal Government.

I wanted that point to be very clearly stated in the record. Despite what you will hear from critics and some House Members, the people of Utah went to an election in a near record turnout for a special election, and 73 percent, despite the fact that it was a very spirited campaign with TV ads, with a couple of city councils opposing it, 73 percent of the people in the district said, "We want to spend $335 million of our money to pay back our share of the Central Utah Project."

I think that is highly significant. As a matter of fact, I was hoping for a large vote. I would not have guessed that we would get a 73-percent margin from taxpayers in light of today's climate to pay back $335 million.

With respect to the fiscal 1987 budget, I would like to put that in perspective. The Bureau requested $104 million for the Bonneville unit in fiscal 1985. For fiscal 1986, the Bureau requested only $62 million for the Bonneville unit, and that low dollar amount was because we had to go back and vote on a new repayment contract. I agreed to the restrictions that year so that we could go back and have the people of Utah make a decision. As I have already said, they overwhelmingly did, and so now, with the Bureau's request of $84 million, it has the appearance that this is a large increase over last year. I would like to point out that this year's fiscal year 1987 request is still $20 million under fiscal year 1985.

So really, I would like the record to show that what we are doing is making up for some lost momentum.

Last week, the people from the Central Utah water project came back to meet with the Utah congressional delegation. They presented a very aggressive 10-year construction plan which they intend to meet to finally finish this project, one that was supposed to be finished in 1972.

I would like to make their construction schedule for the next 10 years part of the record, if I could.

Chairman HATFIELD. The material will be accepted as part of the record at this point.

Senator GARN. Thank you, Mr. Chairman.

Chairman HATFIELD. I thank the Senator from Utah.

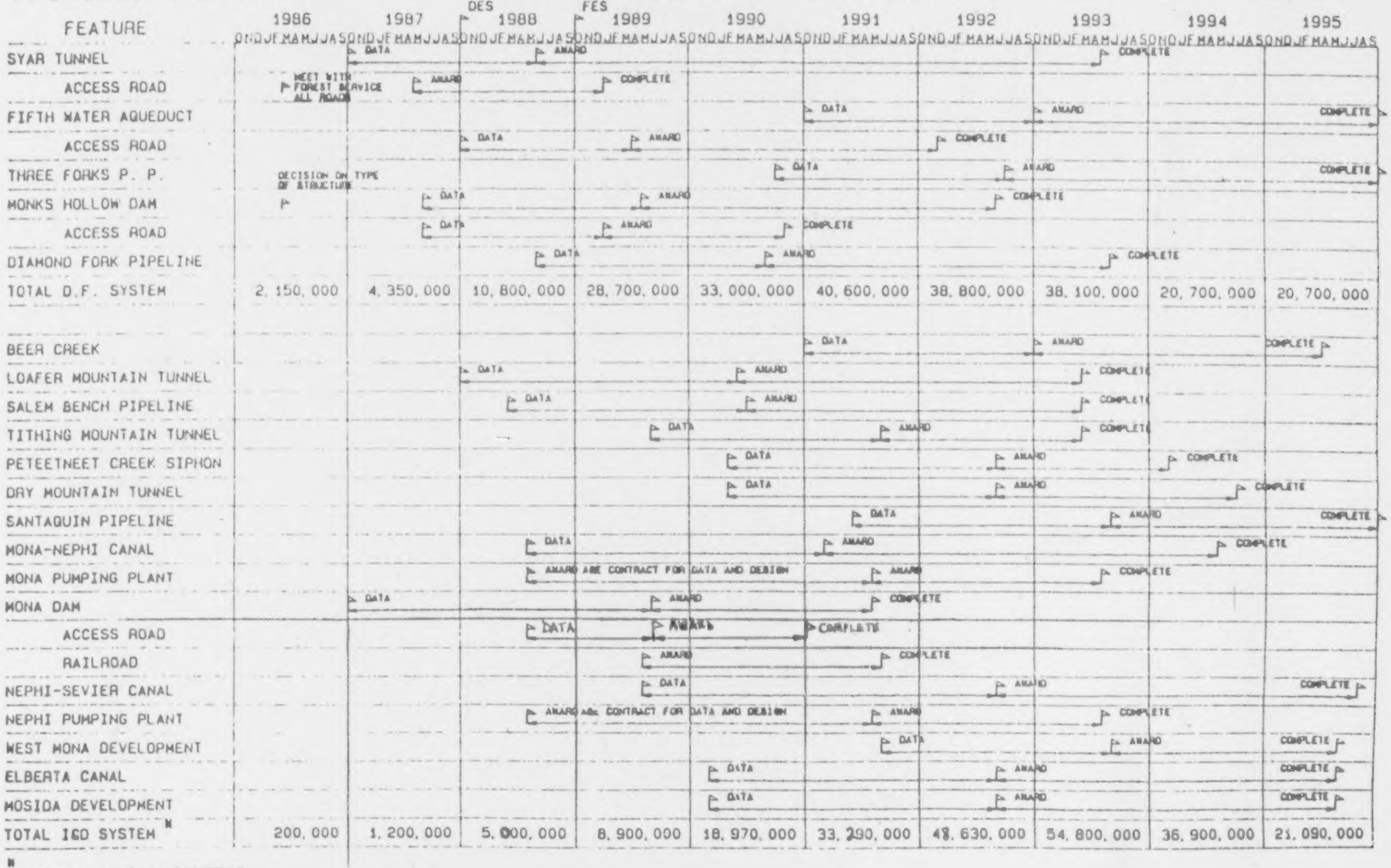
[The information follows:]

PROPOSED BUDGET

DIAMOND FORK/I & D SYSTEM

12 MW of Power available in late FY1996 after testing of Power Plant

2/13/86



* DOES NOT INCLUDE DRAINS OR LATERALS

PROPOSED BUDGET JORDANELLE / M&I

FEATURE	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
	ONDJFMAMJJAS	ONDJFMAMJJAS	ONDJFMAMJJAS	ONDJFMAMJJAS	ONDJFMAMJJAS	ONDJFMAMJJAS	ONDJFMAMJJAS	ONDJFMAMJJAS	ONDJFMAMJJAS	ONDJFMAMJJAS
GASLINE RELOCATION	DATA AWARD	COMPLETE								
POWERLINE RELOCATION	DATA AWARD	COMPLETE								
TELEPHONE RELOCATION	DATA AWARD	COMPLETE								
HIGHWAY 40 RELOCATION		AWARD			COMPLETE					
HIGHWAY 189 RELOCATION			AWARD		COMPLETE					
COUNTY ROAD CONSTRUCTION	DATA	AWARD		COMPLETE						
JORDANELLE DAM STAGE I			AWARD		COMPLETE					
JORDANELLE DAM STAGE II					AWARD			COMPLETE		
TOTAL JORDANELLE DAM	26, 104, 000	37, 894, 000	79, 656, 000	52, 811, 000	58, 086, 000	73, 127, 000	53, 903, 000			
UPPER PROVO RIVER IMPR.									DATA	
TOTAL UPPER PROVO RIVER						8, 000	8, 000	8, 000	10, 000	20, 000
JORDAN 4-ALPINE 3		COMPLETE								
ALPINE 2		AWARD		COMPLETE						
TOTAL AQUEDUCT SYSTEM	16, 572, 000	4, 056, 000	2, 672, 000	3, 617, 000						
JACOB WELBY P. P.				DATA		AWARD		COMPLETE		
TOTAL JACOB WELBY			10, 000	10, 000	10, 000	2, 909, 000	2, 899, 000			
		1/	1/							
TOTAL M&I SYSTEM	42, 676, 000	41, 950, 000	82, 338, 000	56, 438, 000	58, 096, 000	76, 044, 000	56, 810, 000	8, 000	10, 000	20, 000
TOTAL FROM SHEET 1	2, 350, 000	5,550,000	15,800,000	37,600,000	51,970,000	73,890,000	87,430,000	92, 900, 000	57, 600, 000	41, 790, 000
TOTAL REMAINDER OF BU	20, 374, 000	37,046,000	26,044,000	4,300,000	0	2,620,000	6,000,000	6, 000, 000	6, 000, 000	7, 550, 000
		1/	1/							
TOTAL	65, 400, 000	84,546,000	124,182,000	98,338,000	110,066,000	152,554,000	150,240,000	98, 908, 000	63, 610, 000	49, 360, 000

1/ An additional $14,000,000 for earnings to Tyger Construction for quantity overruns and other modifications will be due in '87 and '88 and are not currently integrated in these numbers.

PREPARED STATEMENT

Senator BURDICK. Mr. Chairman, the Governor of our State asked that his statement be made part of the record.

Chairman HATFIELD. The Governor's statement will be accepted and made a part of the record at this point.

[The statement follows:]

STATEMENT OF GOV. GEORGE SINNER OF NORTH DAKOTA

Mr. Chairman and members of the committee, I am unable to attend your hearing today because of pressing business with the National Governor's Association.

I am meeting today with Congressman George Miller of California, chairman of the House Subcommittee on Water and Power of the Committee on the Interior and Insular Affairs.

It is my understanding that an agreement exists whereby a bill authorizing the Garrison diversion will originate in the House.

RESOLUTION OF DISPUTE WITH LEE IACCOCA

Chairman HATFIELD. The Senator from New Mexico.

Senator DOMENICI. Thank you very much, Mr. Chairman.

Perhaps before I arrived—and I apologize for being late—maybe you asked the Secretary how he and Lee Ioccoca are getting along. [Laughter.]

Have you asked him?

Chairman HATFIELD. That was done privately.

Senator DOMENICI. I also did that this morning. [Laughter.]

Having my last name, I should inquire about this matter. [Laughter.]

Chairman HATFIELD. There is a certain camaraderie that you have.

Senator DOMENICI. But I decided that I would leave it up to you, Mr. Secretary, and Mr. Iaccoca to solve that problem.

Mr. Secretary, you do look well, so I assume that all is working out? [Laughter.]

Secretary HODEL. As a matter of fact, Senator, I think that we are where we should be and that Mr. Iaccoca will continue to serve as foundation chairman. He will run the celebration on the 4th of July, which is, I think, important for people to understand. There was some misunderstanding as to what was going on. The new chairman of the committee, Armen Avedisian, and he have had a couple of very cordial conversations. They have high mutual respect, and I think the net result will be that the American people, the Department of the Interior, and all of us can be confident that the advisory commission will be able to give independent advice. I think that is a positive thing.

GRAMM-RUDMAN-HOLLINGS REDUCTION

Senator DOMENICI. I haven't had a chance to review your entire statement, and if you don't have these numbers, perhaps you could supply them to the chairman in due course.

It is of more than passing interest to many of us in looking at this coming year to take a close look at the sequestration we expect to occur on March 1. Since March 1 is almost upon us. I guess it is fair to assume that the fiscal year 1986 Gramm-Rudman-Hollings mandatory reductions will be achieved.

But even if it is still subject to doubt, I wonder if you have the numbers which would indicate, assuming that the Gramm-Rudman-Hollings across-the-board reduction, as presently interpreted, is ordered for your Department and the Bureau of Reclamation, how your fiscal year 1987 budget submission compares with the fiscal year 1986 adjusted level?

Secretary HODEL. In fact, I am sure that Mr. Duvall and Mr. Klostermeyer have the figures in detail, but in our budget presentation, we have attempted to show the 1986 estimate with the 4.3-percent reduction as a comparison with the 1987 request we have submitted. We can provide that.

[The information follows:]

COMPARISON OF 1986 APPROPRIATION AFTER APPLICATION OF PUBLIC LAW 99-177 AND 1987 REQUEST

[In thousands of dollars]

Appropriation	Fiscal year 1986 after application of Public Law 99-177	Fiscal year 1987 request	Increase/decrease 1987 over 1986
General investigations	32,571	27,820	-4,751
Construction program	499,267	576,759	77,492
Operation and maintenance	126,960	150,000	23,040
Loan program	37,624	[1] 39,941	2,317
Emergency fund	957	1,000	43
General administrative expenses	47,084	51,200	4,116
Working capital fund		6,400	6,400
Total	744,463	853,120	108,657

[1] Includes $1,920,000 dependent upon proposed legislation.

Senator DOMENICI. I would appreciate it if you will submit the numbers for all to review. Is the President's fiscal year 1987 budget request up from that level as a starting point?

Secretary HODEL. Yes, the request for the Bureau of Reclamation is an increase over 1986.

Senator DOMENICI. If so, how much?

Secretary HODEL. Our construction budget is up $77.5 million in budget authority over 1986. That is our budget authority request..

It is the 1986 budget authority which was reduced by 4.3 percent which is the base from which we request an increase of $77.5 million in budget authority for 1987. The outlays in 1987 would, in fact, be $65 million less than the 1986 estimate. As you know, in this construction program the budget authority, obligations and outlays can sequence themselves in different fiscal years. We have that in detail by project if you desire.

ANIMAS-LA PLATA PROJECT

Senator DOMENICI. I would appreciate such a response.

I have one question.

Mr. Duvall, with reference to the Bureau of Reclamation, on page 3 of your testimony, you indicate that the Animas-La Plata project in New Mexico and Colorado is a new start. You indicate that the fiscal year 1987 budget also assumes that Colorado and New Mexico will contribute $4.2 million to the Animas-La Plata project in 1987; is that correct?

Mr. DUVALL. That is correct.

Senator DOMENICI. I am very concerned because Congress did require negotiated cost-sharing agreements on the few projects fenced in the fiscal year 1985 supplemental appropriation bill. This was one of those that was fenced, awaiting what was statutorily defined as an "acceptable" cost-sharing agreement to be negotiated with the Secretary. What is New Mexico's share of that $4.2 million, and how did you arrive at what is reasonable?

If you don't have that now, it would be fine with me if you answer it for the record, Secretary Hodel.

Chairman HATFIELD. You may supply that for the record, if you wish.

Mr. DUVALL. We don't have the details with us, but we can supply it.

[The information follows:]

ANIMAS-LA PLATA PROJECT

Funds are provided in the Fiscal Year 1985 Supplemental Appropriations Act (Public Law 99-88) to begin construction on the Animas La Plata project in New Mexico and Colorado. In addition to the Bureau of Reclamation's funds, the budget assumes that the two States will fund and implement necessary field mapping in fiscal year 1986 and contribute $4.2 million in 1987. The $4.2 million represents the additional amount that would boost the $1 million request to the total capability level of Reclamation to maintain the construction schedule for the project in fiscal year 1987. The fiscal year 1986 funding and implementation of field investigations and the fiscal year 1987 $4.2 million have not yet been agreed to by the project participants. And, inasmuch as negotiations are still underway on the cost-sharing agreement, the total split of the $4.2 million among the two States cannot be determined at this time.

PROJECT COST ESTIMATES

Senator DOMENICI. I would note that, as in many of these projects, the original cost estimates over the last 5 or 6 years have been very high. The revised cost estimates are almost always lower. That holds true in Animas-La Plata. It is down a substantial amount, approximately $70 million.

But I do note that that reestimate hasn't changed the cost-sharing requirement for the local sponsors, at least as a starting point for what you assume to be reasonable.

Mr. DUVALL. It is my understanding, Senator, that the non-Federal participants in the Animas-La Plata project are in the process of drawing up a proposal to be submitted to the Department of the Interior, to the Secretary, relative to their cost-sharing arrangement.

Senator DOMENICI. Yes, indeed.

Mr. DUVALL. At the time that we came up with the revised cost numbers for the Animas-La Plata project, we left the targeted number of $200 to $300 million of cost sharing alone so as to minimize confusion and to move the project or to keep the project as consistent with non-Federal cost-sharing objectives as we could.

Senator DOMENICI. Thank you very much.

Mr. Chairman, I wonder if you would permit me to ask one additional question that is not totally within this appropriation, but is directly under the Secretary.

Chairman HATFIELD. You may ask an irrelevant question. [Laughter.]

Senator Domenici. Thank you.

It really is not irrelevant. It is irrelevant to this hearing, and I am sure the Chairman will wonder what I am talking about, since I am almost always perceived to be talking about numbers.

Mr. Secretary, earlier today I had a conversation with you about a new and very different subject—a polar bear named Linda up in Canada that is in a cage. A marvelous zoo in Albuquerque, N. Mex., would like to have this polar bear. They have a place for the mother bear and her two cubs. I understand that we have an independent commission that passes judgment on whether or not a zoo can have a polar bear that might otherwise have to be killed, and that the process could take as long as 2 or 3 months. I believe you have to have a formal request for research on the polar bear before we can bring it from Canada to the zoo in Albuquerque.

You were very helpful this morning, and indicted that you would look into it. I want to urge you publicly, again, to look into this matter. It is not a matter of billions of dollars we are talking about, but I think we have to get around these rules to save the polar bears. I would hope that you would try to make some sense out of this and give us some advice on how to get the transfer done.

Secretary HODEL. Senator, since you drew that to my attention in that telephone conversation, I have requested an immediate response from the Fish and Wildlife Service on it, because I think we need to move quickly. If I understand, the problem is that the mandated process requires 2 or 3 months to complete which will be 2 months too late to save the polar bear; this makes no sense at all. If it is going to be destroyed where it is and it can't be taken to a zoo where it will be appropriately and properly cared for, we certainly have something wrong with the process.

I expect to be back to you promptly.

Senator DOMENICI. You might also, if it serves any purpose, tell the people that are administering the program that I don't want them to violate any laws, but I surely will be using the little bit of influence I have around here to see if we can't find a way to do the simple task of relocating these polar bears for the good of all.

I am sorry to burden you at this hearing, and I apologize to the chairman for asking the question.

ADDITIONAL QUESTIONS FOR THE RECORD

I do have one or two other questions that I'll submit for the record. Thank you, Mr. Chairman.

Chairman HATFIELD. I am very happy to have you participate, sir.

Senator DOMENICI. Thank you again.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY SENATOR DOMENICI

ANIMAS-LA PLATA PROJECT

Question. Mr. Duvall, one of the four new starts in the fiscal year 1985 Supplemental Appropriations Act (Public Law 99-88) is the Animas-La Plata project in New Mexico and Colorado. Approximately $1 million is available to proceed with this project provided that an acceptable agreement to participate in project cost-sharing and financing is entered into by these States.

What is the status of the negotiations on the required cost-sharing agreement with the States of New Mexico and Colorado?

Answer. The last negotiating session at which the United States was represented was held on November 29, 1985. During that session the States of Colorado and New Mexico indicated an unwillingness to continue negotiations with Department of the Interior representatives. Their stated intent was to develop an independent proposal which would be forwarded to the administration through their congressional delegation. Negotiations are in abeyance while we await that proposal.

Question. Do you anticipate that a satisfactory agreement will be entered into prior to June 30, 1986, when the availability of these funds is scheduled to lapse?

Answer. We are very concerned with the lack of progress being made toward reaching an acceptable cost-sharing agreement. Although it is still physically possible to reach agreement and have the agreement conformed by June 30, 1986, we are approaching the point where agreement, review and approval will be most difficult to accomplish by the statutory deadline.

Question. Mr. Duvall, on February 14 you announced that a reassessment of the cost estimate for the proposed Animas-La Plata project in southwestern Colorado and northwestern New Mexico indicated a "significant reduction in the overall cost of the project." The revised cost estimate of the Animas-La Plata project amounts to $553.6 million, which is $68.6 million less than the previous estimate of $622.2 million, largely due to lower rates of inflation and, therefore, construction costs.

In spite of this reduction, the administration announced that it would hold firm on the $200 to $300 million contribution to the project by the non-Federal sponsors. I have encouraged the resolution of the cost-sharing question and support efforts to do so, however, I fail to see the equity in requiring the local sponsors to make the same contribution when the project will cost less. What is your rationale for this decision?

Answer. It is the administration's belief that the Nation's fiscal environment demands diligence in all areas including cost-sharing on water projects. Therefore, we feel that a $200 to $300 million non-Federal cost share objective remains appropriate for the Animas-La Plata project.

Question. Are any of the other three new starts for the Bureau faced with this same situation?

Answer. The three new construction starts you refer to are the Headgate Rock hydroelectric project, Arizona; Boulder Canyon project, Arizona-Nevada; and Buffalo Bill Dam modification, Wyoming. In the case of the Buffalo Bill Dam modification project, the State of Wyoming has agreed to fund a fixed amount of $47 million, or about 40 percent of the project cost. The Headgate Rock hydroelectric project will provide for energy needs on the Colorado River Indian Reservation and is not subject to cost-sharing by the Indians. The Boulder Canyon project involves the construction of a visitor facility and enlarged parking areas and will have 100-percent cost sharing through repayment by power users.

Question. Do you believe the local sponsors can meet the current cost-share requirement?

Answer. We believe that the beneficiaries of the project, which include the local sponsors, the States of Colorado and New Mexico, and the region as a whole can meet the current cost share expectation.

Question. Have you received the revised formal offer from the local sponsors that you expect?

Answer. We have not yet received their formal offer.

LAKE ANDES-WAGNER, SOUTH DAKOTA

Chairman HATFIELD. The Senator from South Dakota?

Senator ABDNOR. Thank you, Mr. Chairman, and welcome, Mr. Secretary and gentlemen.

I, like the other members, have specific projects I would like to ask about. One deals with the Lake Andes-Wagner irrigation project.

When will the Interior Department make their recommendation on the Lake Andes-Wagner irrigation project? The reports have been there, and you have not acted on them. Actually, you are holding up the committee process. We need your recommendation to be made soon. Do you foresee that happening in the near future?

Mr. DUVALL. My information, Senator, is that the letter is being prepared in the Bureau of Reclamation at the present time for submitting the project report to the Secretary for a decision.

FEDERAL POLICY ON WATER RESOURCE PROJECTS

Senator ABDNOR. What will an irrigation project have to contain to receive the administration's support?

Mr. DUVALL. What would it have to contain?

Senator ABDNOR. Yes. I would like to know what the cost sharing, if there is any, would be and how good the project has to be to be approved?

Mr. DUVALL. The first and primary concern of a project, a test that a project has to meet, is one of economic viability. In today's environment, economic viability becomes even more important than it has been traditionally down through the years of the Bureau's life because of the pressures that are being forced upon the funding of a project. The Federal Government is moving very rapidly toward the area of non-Federal participation in the funding, up front, cost sharing, so to speak, of projects.

If a project can meet the economic viability test, and if water is available in the region in order to facilitate making that test, then the question comes down to what is the water going to be used for. There are some areas of concern with creating new projects for a single purpose or creating new projects that are going to produce primarily crops that are presently in the surplus classification.

Those are obstacles to bringing a new project forward.

LAKE ANDES-WAGNER PROJECT REPORT

Senator ABDNOR. Does it look good that some reports will be coming forth soon.

Mr. DUVALL. On the Lake Andes-Wagner? Yes. A report will be forthcoming on that.

Senator ABDNOR. Mr. Secretary, while we are at it, how long do you think it will take you to review that report?

Secretary HODEL. Senator, I don't think it should take me long, assuming that the material that comes to me is complete and comprehensible. I have to qualify it that way, because sometimes I do see things that when they are presented don't contain all that I think they should have in the way of material to make a decision.

But it should not take long once it comes to my attention.

Senator ABDNOR. It has been quite a while though. We would like to proceed. We should have a decision. We hope, of course, it is favorable. I have been working on this project for a long, long time, and I hope that it is going to have a good report.

WEB RURAL WATER PROJECT, SOUTH DAKOTA

Let me ask you about another project in South Dakota. The WEB pipeline project is progressing well, as you know, Commissioner. What are the chances that additional funds might be reprogrammed to advance its construction in fiscal year 1986? Do you think there will be much general reprogramming happening this year?

Mr. DUVALL. At the present time, Senator, because of the fact that our budget authority was reduced this year to improve our program accomplishment, we are not expecting an unexpended balance this year that will be available for reprogramming.

The last number that I saw indicated that we are presently running about $13 million behind the curve so that our program efficiency is going to be on the high side, and we won't have the luxury of reprogramming funds that have been identified.

Senator ABDNOR. Is that because of cutbacks or because programs are running ahead of schedule?

Mr. DUVALL. Well, the combination of the cutbacks, plus the fact that this year, we have not been confronted with labor strikes or things that have slowed down the progress of projects.

Senator ABDNOR. I will keep checking in to see if something does change. If it does, I can assure you, WEB can make good use of any extra dollars.

Mr. DUVALL. Yes, sir. We met with the WEB people and advised them of the circumstances that we are confronting this year and have assured them that if funds do become available that they can properly and efficiently use, that they certainly will have a crack at them.

BELLE FOURCHE UNIT, SOUTH DAKOTA

Senator ABDNOR. One last question, Mr. Chairman, and I will be quick. What is the timetable on the Belle Fourche project for initial construction completion?

Mr. DUVALL. For completion, it is presently targeted for 1990.

Senator ABDNOR. 1990. I want you to know I am very pleased to see funding provided in 1986 and 1987. We appreciate what you are doing there. I have some additional questions I will submit for the record.

Thank you, Mr. Chairman.
[The questions and answers follow:]

QUESTIONS SUBMITTED BY SENATOR ABDNOR

CENDAK

Question. The CENDAK Planning Report/Draft Environmental Impact Statement that the Bureau, the State of South Dakota and the local CENDAK organization have been working on for the past several years was due to be issued by the Regional Director last December. Can you tell me its status?

Answer. The Regional Director's Planning Report/Draft Environmental Statement has been completed and was transmitted to the Commissioner of Reclamation for review on February 24, 1986.

Question. Based on the funds now shown in the President's Budget for FY87, what does the Advanced Planning Program look like for 1986 and 1987, particularly as related to land classification, drainage studies and completing the Fish and Wildlife Coordination Act Report?

Answer. General Investigation Studies have continued in Fiscal Year 1986 with the intent to complete land classification and drainage investigation contracts initiated in Fiscal Year 1985. In addition, other drainage investigative work has proceeded with an expected completion in early 1987. Environmental investigations in coordination with the Fish and Wildlife Service are ongoing. A wildlife prototype area is being investigated to define assessment procedures, avoidance measures, and implementation of an onfarm mitigation plan. Completion of the prototype investigation is expected in early Fiscal Year 1987.

Question. What additional funds would be needed by the Bureau to complete these three items of joint Advanced Planning in FY87?

Answer. Advanced Planning was scheduled to take approximately 5 years in duration and require appropriations upwards of $2,000,000 per year for at least 4 of those years. Because of the funding limitation in Fiscal Year 1987, work was scaled back in Fiscal Year 1986 to assure that funds in the Fiscal Year 1987 budget were adequate to complete the work underway. Although work begun in Fiscal Year 1986 can be completed, the drainage investigations would be terminated prematurely. To resolve remaining drainage questions, an additional $325,000 would be required in Fiscal Year 1987. To continue Advance Planning as previously scheduled, appropriations of approximately $2,000,000 in Fiscal Year 1987 would be required.

WEB RURAL WATER PROJECT

Question. WEB's progress is good at this point. The first water will be delivered this spring. What are the chances that funds could be reprogrammed to advance this construction in FY 1986?

Answer. Because the FY 1986 appropriation was substantially less than appropriated in FY 1985, the Bureau finds that available funds for reprogramming are more limited. I can assure you that the Bureau is making every effort to fund all work as planned in the Construction Program plus meet additional needs such as WEB's ongoing requirements. We are proceeding to meet funding needs on a month-to-month basis and it is possible that savings and non-budgetary slippages will become available to cover additional needs of projects such as WEB.

BELLE FOURCHE

Question. What is the rehabilitation timetable on the Belle Fourche Project? I am pleased to see funding provided in FY 1986 and FY 1987. The project needs this attention and more.

Answer. Actual onsite construction work on the Belle Fourche Project was accomplished with the reprogramming of $1,900,000 in FY 1986. Thus far we have awarded contracts for an office building in Newell, South Dakota and two contracts for repair of check structures. Our budget request of $3,900,000 in FY 1987 will continue the construction schedule with completion of rehabilitations necessary to restore the reliability of the system.

CENTRAL ARIZONA PROJECT

PLAN 6 COST SHARING PROPOSAL

Chairman HATFIELD. The Senator from Arizona?

Senator DECONCINI. Mr. Chairman, thank you very much.

Mr. Secretary, as you know, the issue which is foremost in the minds of Arizonans right now and has been for some time is the State cost-sharing agreement. I want the record to show, Mr. Secretary, that I thank you for working with the State on developing this proposal. You probably will remember that less than a year ago I was totally opposed to any cost sharing for plan 6 of the CAP, feeling that this was a total Federal responsibility under the authorization of the Central Arizona Project, including plan 6.

However, the reality is that if we want to complete this project and keep it on track, cost sharing is a necessity. So we all were persuaded to put together a cost-sharing proposal, and certainly your leadership has meant a lot in getting the State and our delegation together on this issue.

The State's water interests, under the direction of Gov. Bruce Babbitt, have held numerous meetings and put together the latest proposal. We now have a document which demonstrates the State's commitment to fund $371 million of the total cost of plan 6, and this amount of money is up front during construction.

Can you explain what your views are on the Arizona cost-sharing proposal that is before you now?

Secretary HODEL. Yes, Senator, and let me say, as I believe I acknowledged last year and I would be the first to acknowledge this year, that upfront cost sharing was not contemplated when the Central Arizona Project was initially undertaken, so your position on that was exactly right.

However, we concluded, as we went along, that we would have great difficulty going forward on schedule with the project without some upfront cost sharing. I think we all felt that upfront cost sharing would be an appropriate way to proceed. There were extended negotiations last year among the participants. The various bodies, the water districts and the Salt River project, as well as the State, were extremely forthcoming.

I should not imply that they were easy by any means, but they were extremely forthcoming and willing to sit through extended negotiations to come up with the $371 million. I know you are well aware of this, but I think it is important for the record to show that that $371 million is not just a lump sum payment. That $371 million is for particular elements of the project and is raised by various components of the community in Arizona.

Senator DECONCINI. That is correct.

Secretary HODEL. And it was a complex agreement that was reached, and a remarkable one.

It has not reached my desk for approval, but I can say I am very favorably disposed toward that agreement. In my view, the agreement is a significant improvement of the financial circumstances for the Federal Government, and I say that knowing that there are some who are concerned about some payment elements in there.

Let me say that my view is that at the very least the cost-sharing proposal is worth $100 million to the Federal Government in terms of present value. If we are able to meet our targeted deadlines on the construction of this project, then we, in a sense, will earn bonuses which total $182 million in terms of present value and $371 million overall.

I guess I am being a little defensive here, frankly. There are some people that have suggested we have somehow tried to insulate this project from Gramm-Rudman-Hollings.

Senator DeConcini. I have a question on that I want to ask you. [Laughter.]

Secretary Hodel. Do you want to ask it before I answer it?

BONUS CLAUSE IN COST-SHARING PROPOSAL

Senator DeConcini. Before I get to that, but that is almost the next question. Realizing that official proposal is not before you, Mr. Secretary, and having negotiated some of it myself, along with you, Mr. Broadbent and others. I think you are aware of the penalty clauses that are being proposed in the agreement. Do you think the cost-sharing agreement is fair and equitable with those types of penalty provisions that have been at least proposed?

Secretary Hodel. Yes, I do, Senator, and the reason is that in these negotiations, the parties looked at the history of the Bureau of Reclamation and our successes and failures over the years in being able to keep projects on schedule and said:

> We are willing to make our upfront payment to you, but we want an understanding that you will obtain the necessary appropriations for the additional values that we are willing to put in this.

Put it this way: If a project can be completed on the current schedule, it creates sufficient economic return that the parties in Arizona can finance and make the upfront payment. If it turns out that we fail to obtain appropriations or perhaps ask for them, and that is always a risk, as we all know, in the budget cycle, and we are forced to delay those projects, then we lose some of the value of that payment.

Senator DeConcini. And you lose probably, long term, too, by escalating costs because of inflation, if by nothing else, would you agree?

Secretary Hodel. Yes, I do. In fact, once we get into the heavy construction curve of a major project, one of the least productive things we can do is delay it.

Senator DeConcini. We are certainly into that curve with the Central Arizona Project.

Secretary Hodel. We are.

IMPACT OF GRAMM-RUDMAN REDUCTIONS

Senator DeConcini. How do you respond, Mr. Secretary, to the charges that the Central Arizona project has been exempted from the Gramm-Rudman-Hollings?

Secretary Hodel. I respond that that is not an accurate or fair characterization, because all of our accounts are subjected to Gramm-Rudman-Hollings. If the Congress and the administration don't reach accord on a budget which is devoid of sequestering, and we have to come to that, it would be just simply part of the delay factor which would have the effect of losing some of these bonuses; I think of them more as bonuses than penalties, which can be earned by keeping the project on schedule.

But I say the bottom line still remains that we are $100 million better off than we would have been without this agreement.

Senator DeConcini. Mr. Chairman, I have three more questions, but the Senator from Tennessee has a severe conflict, if the chairman would let me yield to him for his questions.

Chairman Hatfield. I would be very happy to yield to the Senator from Tennessee.

Sale of Power Marketing Agencies

Senator Sasser. Mr. Chairman, I thank the chairman. I thank the Senator from Arizona for yielding.

Mr. Secretary, I have been very concerned about the proposal by the administration to begin selling the Power Marketing Agencies.

I think it represents a false deficit reduction. These agencies actually bring money into the Federal Treasury. I am going to oppose the sale of the Power Marketing Agencies, because some of the facilities impacted by the sale are dam sites currently operated by the Bureau of Reclamation.

SUBMITTED QUESTIONS

I have here a series of questions about the sale of the Power Marketing Agencies and the impact of that sale on the operation of Reclamation facilities. I would like to submit these questions for the record and ask that you respond at your earliest convenience.

Secretary Hodel. Thank you.

Senator Sasser. Mr. Chairman, I thank the chairman for yielding, and especially thank my friend from Arizona for letting me have a moment of his time.

Chairman Hatfield. They will be included in the record and the Secretary has indicated he would respond.

Senator Sasser. Thank you.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY SENATOR SASSER

Privatization

Question: What does the Administration propose in its plan to "privatize" the Federal Power Marketing Administration? Does the Administration plan to sell the physical facilities owned by the Bureau, i.e., powerhouses, dams, turbines, transmission lines, substations, or simply plan to sell the output from the facilities?

Answer: Although the Department of the Interior has not yet been formally involved in the Administration's proposal to privatize the Federal Power Marketing Administrations (PMA's), we understand that an interagency task group is being formed to develop a specific proposal for selling the PMA's and that this task group will determine which assets are to be included included in the sale. At this time, we understand that ownership of the dams and other multipurpose features would be retained by the U.S. Government; only the transmitting and generating facilities associated with the power marketing function are to be included in the sale.

Question: You are well aware of the extent and complexity of existing multipurpose projects. Multipurpose dams provide a number of public benefits, including flood control, navigation, recreation, irrigation and municipal and industrial water supply. Who will coordinate these public benefit functions when the PMAs are sold? How will these functions be coordinated? Who will control the flow of the river? What functions will be given priority? What type of priority will electric production be given? How will that priority affect financing for the sale of PMAs?

Answer: In essence, the President's 1987 Budget proposals would merely initiate the process of defederalization. The budget does not attempt to prescribe specific terms and conditions, nor establish minimum conditions. Rather, it proposes an objective, and initiates a process to work toward that objective. The budget states several general principles that will guide this process: (1) that it will be open and competitive, involving the Congress, State and local officials, current customers and all other interested parties; (2) that the Federal taxpayers should receive a fair return on their investment; (3) that there be recognition and appropriate protection for the interests of current PMA customers and their employees; and (4) that the transfer of the PMA's to non-Federal control will promote efficient use of these scarce and valuable energy resources.

The Administration is currently putting together a task force and detailed work program to move ahead with this process. Because the Administration is only in the beginning state of this process, it is not possible to provide at this time answers to many of the specific questions you raise.

All of the concerns noted in this question stem from the complex relationship among the PMA's, the Corps of Engineers, the Bureau of Reclamation, and other entities which have unique roles in the operation of multipurpose dams and reservoirs. The complexities of these relationships will create special circumstances which will need to be addressed in the development of the privatization proposal.

Question: Is it assumed that buyers of the PMAs would finance the sale by revenue bonds where repayment of the bonds is based on the output from the projects. How will the priority given to multipurpose projects affect the ratings or the marketability for these bonds?

Answer: This issue must be addressed by the Administration task force.

Question: Under current power marketing policies, public bodies are given first right to buy Federal power. Would this preference right be continued if the PMAs were sold?

Answer: This issue also will be addressed by the task force. However, we would observe that since inception, the PMA's have marketed power subject to preference for public bodies and cooperatives. The defederalized PMA's could be required by the enabling legislation to continue to give the public bodies and cooperatives preference.

Question: How would existing PMA's sales and transmission contracts be honored? Would they be terminated? Would they be renegotiated?

Answer: The guidelines offered by the Administration indicates that the privatization process will include recognition and appropriate protection for the interests of current PMA customers and their employees. We assume the task group will determine the appropriate contractual actions required to implement this guideline. The Bureau of Reclamation has numerous contracts with irrigation districts to supply project-use power to the irrigation functions of multipurpose projects and has Memorandums of Understanding with the Bonneville Power Administration (BPA) and the Western Area Power Administration (WAPA) all of which will need to be addressed in the proposed sale of the PMA's.

Question: Under current law, PMAs must repay to the Federal Government all costs of construction, operation and maintenance for Federal power production and transmission, including principal and interest. The price of Federal power is based on the cost of production. How would cost-based pricing be affected by the sale of PMAs?

Answer: As stated previously, the Administration is only in the beginning stage of the process of planning for privatization and it is not possible to provide answers to many specific questions. However, we would observe that the principle of cost-based electric rates is not unique to government. The same principle underlies the regulation of wholesale and retail rates of utilities throughout the Nation.

Question: Hydropower revenues not only repay 100 percent of its own costs, but also directly assist the repayment of a significant portion of the costs of irrigation, salinity control, and fish and wildlife mitigation at many Federal dams. How will these costs be affected by privatization of the PMAs? Who will pay for these functions?

Answer: The Administration task force will consider this issue. The costs of multipurpose Federal projects are generally allocated to the various functions in proportion to the benefits received. Pursuant to the Department of Energy Organization Act, any change in existing allocations will require the consent of the Congress.

Question: Will the sale of PMAs affect any international treaties with respect to flood control and power exchanges?

Answer: This issue will be addressed by the Administration task force.

Question: How will privatization of the PMAs affect the Corps' responsibilities for basin wide flood control operations?

Answer: This issue will be addressed by the Administration task force.

Question: How much money does the Administration anticipate charging for PMAs? Will the sale price be based on the repayment of debt still owed on the PMA? Will it be based on the book value of the facilities? Will it be based on the current replacement costs for the facilities or will it be based on the market price?

Answer: The budget proposal assumes that the PMA's are sold at a price equal to the unpaid Federal investment. It is important to emphasize that these are assumptions for budget purposes only; the actual price will be developed following a public review process.

CENTRAL ARIZONA PROJECT

FUNDING AND CONSTRUCTION SCHEDULES

Chairman HATFIELD. The Senator from Arizona?

Senator DECONCINI. Thank you, Mr. Chairman. Do you want to proceed?

Chairman HATFIELD. Go ahead.

Senator DECONCINI. Thank you, Mr. Chairman.

Mr. Secretary, your testimony indicates the fiscal year 1987 budget estimates and budget outlays for outyears will be sufficient to meet the proposed construction schedule outlined in the Arizona cost-sharing agreement. Could you expand on that point?

Let me make another point before you answer that. Your budget justification indicates that water deliveries for Pima County are scheduled for 1989, and for the Tucson area, for 1992. Am I correct in assuming that water deliveries originally proposed for 1991 for Tucson are being delayed? If that is so, then could you explain how the fiscal year 1987 and outyear budget estimates for the Bureau will be sufficient to meet the construction schedules outlined in the Arizona cost-sharing agreement?

Mr. DUVALL. Let me address the question of delivery of water to Tucson. There have been papers that have been sourced to the Bureau which have referred in some cases to 1991 and in other cases to 1992. We have gone back and tracked that down to find out how that difference came into play, and we found it is a difference between identifying, in some cases, a fiscal year and in some cases a calendar year, and I could say that we have not revised the schedule. We currently are supporting the calendar year 1991 date that has been mentioned in several instances.

Senator DECONCINI. Thank you. I appreciate the clarification. That is very helpful.

So, Mr. Secretary, I presume the answer to the question is pretty self-evident that the 1987 outlay estimates for the Bureau will be sufficient, assuming that the Gramm-Rudman sequester does not attack the project. I want to tell you that in my short 9 years here, this is the first time that any administration in my judgment has put forward a budget request to fully fund the CAP for a particular year. Of course, there is additional money from the Arizona non-Federal entities from the cost-sharing agreement. I believe the non-Federal share is $8 million in fiscal year 1987. I really compliment you and the administration for a change by putting up these dollars in these tough years to finish a project that will ultimately save money, and I compliment you for that.

RECOGNITION OF ASSISTANT SECRETARY BROADBENT

I also just want to say, Mr. Secretary, that losing Mr. Broadbent is a great loss to the State of Arizona. We almost feel like he is from Arizona for the care and consideration that he has given to our project for a long, long time. If he wants to run any airports, we would be glad to try to find him some place in Arizona. We will miss him, as I am sure you will.

Secretary HODEL. Yes.

Senator DECONCINI. I would like to ask if you do have a candidate to fill Secretary Broadbent's position. I don't suspect you will announce that today but wonder if you could estimate when that position might be filled.

Secretary HODEL. Senator, I think it was before you were here.

Senator DECONCINI. I am sorry.

Secretary HODEL. I told the chairman that I share your and his respect and admiration for the job Mr. Broadbent has done, and I am going to miss him. I do not have a candidate at this time, and I don't have a deadline. I was ruing the fact that just a few weeks ago, before Mr. Broadbent advised me of his plans, I was saying that, "Thank goodness, we finally have a full slate of Assistant Secretaries in this Department."

We are back now seeking one. I can assure you that it is my desire to be sure that the Assistant Secretary brings a knowledge and a sensitivity about the Western water problems that are so much a part of that job, plus the additional assignments which Mr. Broadbent has been responsible for.

CENTRAL ARIZONA PROJECT

Senator DECONCINI. Thank you.

My last question, Mr. Secretary, going back to the Central Arizona Project, is assuming the legislature of the State of Arizona follows through—and I have no reason to believe that they won't—with the necessary legislation to authorize bonding and grant authority to non-Federal entities to sign the agreement, do you have any ballpark period of time that your Department would have to have in order to enter into the cost-sharing agreements?

Secretary HODEL. I was just asking the Commissioner and Mr. Klostermeyer whether they knew of any special requirements. They don't. I don't know of any requirement, except that this lies before a committee 30 days or 60 days.

Senator DECONCINI. So it is whatever administrative time it would take your office to just approve it?

Secretary HODEL. That is what it sounds like to me, and of course, the proposal has been around a long time. There are no secrets about this, and anybody who has been interested in it has had a significant amount of opportunity to review it. If they are critical, they have an opportunity to comment on it.

Senator DECONCINI. Assuming it comes in the form that we believe it has pretty well been agreed to, we are not talking about a long period of time?

Secretary HODEL. I certainly hope not, Senator.

Mr. KLOSTERMEYER. It is over at OMB right now and they are looking at it.

Senator DECONCINI. And they already have it in the preliminary stages before them now?

Mr. KLOSTERMEYER. Yes. That is right.

Senator DECONCINI. Thank you. Mr. Secretary, again.

And thanks a lot, Mr. Klostermeyer, I appreciate your responsiveness to me and my staff.

Mr. Duvall, thank you also. We look forward to putting this proposal finally to bed.

Thank you, Mr. Chairman, very much.

I do have a statement, Mr. Chairman, if I could ask that it appear in the record at the appropriate time.

Chairman HATFIELD. The Senator's statement will be placed in the record at this point, along with any additional questions you may want to submit.

[The material follows:]

STATEMENT OF SENTOR DENNIS DECONCINI

Mr. Secretary, Mr. Commissioner and others, it is a pleasure to have you before this Committee today. This is the first time in many years that we have had a Commissioner and an Assistant Secretary to speak jointly on Bureau projects. I have worked for many years with Assistant Secretary Broadbent and have admired his abilities and responsiveness to this Senator, the State of Arizona, and all reclamation needs in the West. I am saddened by his decision to depart this important Federal post, but understand his desire to move on to other challenges. Mr. Broadbent has been an outstanding public servant, a real professional, and an excellent reflection on this Administration. His presence will be sorely missed but I wish him the best in his new endeavors.

Mr. Commissioner, I look forward to working with you not only through the Committee but also on a personal level on other items of mutual interest. I am confident that you can ably handle the many difficult issues you will no doubt confront in your new post. The State of Arizona has long had an excellent working relationship with the Bureau and hope this will continue.

Mr. Secretary, I have a number of questions that I will submit for the record on projects in Arizona and ask the Chairman that they be made part of the record.

As you know, the issue which is foremost on the minds of Arizonans right now is the State's upfront cost-sharing agreement. I want to thank you, Mr. Secretary, for working with the State on developing this proposal. You know that less than a year ago I was hesitant to support any kind of cost-sharing for Plan 6, feeling it was a wholly Federal responsibility. However, the reality is that if we want to complete this project and keep it on track, cost-sharing is our means to accomplishing that goal. The plan the State has formulated is, in my mind, a landmark in terms of reclamation financing in this country. The State's water interests, under the direction of Governor Babbitt, have held numerous meetings over the past year, devoting many hours and resources to developing the latest proposal. We now have a document which demonstrates the State's commitment to fund $371 million to the total cost of Plan 6 of the CAP. This amount is upfront money -- to be contributed during the construction of the project. This represents a major departure from policy on reclamation projects , especially those already authorized and under construction. The State has done a commendable job and I hope we can sign this agreement and get it implemented as quickly as possible. I am impressed by the request for the Central Arizona Project in Fiscal Year 1987. That $202.7 million requests demonstrates that the Department of the Interior intends to comply with commitments it will make once that agreement takes effect. I appreciate all of your help in getting that level in the Budget Request, Mr. Secretary. In all of the years I have been here this is the highest figure we have ever seen come out of this Administration.

QUESTIONS SUBMITTED BY SENATOR DECONCINI

Central Arizona Project

Cost Sharing

Question: Do you think there is any legitimacy to the charges that other reclamation projects are suffering as a result of cost-sharing commitments for certain projects?

Answer: If budgetary pressures increase in the future, as they likely will, we all will end up making hard choices as to which investments should continue on schedule and which should slip. Again, to the extent that the terms and conditions of negotiated cost-sharing agreements provide clear financial or other information about the consequences of Federal actions, that information will need to be considered by all of us in our mutual decisionmaking processes.

Question: Your testimony indicates that the FY 87 and outyear budget estimates for the Bureau will be sufficient to meet the construction schedules outlined in the Arizona cost-sharing agreement. Could you expand on that point, Mr. Secretary?

Answer: The Bureau of Reclamation and the Arizona contributors have analyzed the financing needs to meet the negotiated construction schedule. The multi-year planning estimates for the Construction Program which were submitted with the 1987 Budget are adequate to provide the funding levels which have been determined necessary to meet the scheduled completion dates included in the cost sharing agreement.

Question: Do you think the provisions set out in the Arizona Cost-Sharing proposal will be used as a standard for other agreements?

Answer: It is quite possible that this agreement will establish some precedents for future cost sharing agreements.

Question: I know the State Legislature is presently working on the necessary authorizing legislation to allow state and local entities to sign the cost-share agreement. We hope to have an agreement ready for signature before the public witness hearings before this Committee in April. Do you feel confident that we can get final approval on this document within that time frame?

Answer: Our current schedule for review of the agreement contemplates a final decision on the proposed agreement before these hearings.

Central Arizona Project Cost-Sharing Agreement

Question: Could you explain to the Committee the benefits that will accrue to the Federal government once the Arizona Cost-Sharing Agreement is executed?

Answer: The drafters of the Agreement see three primary benefits that will be realized by the Federal government if the Agreement is executed. First, the agreement will provide a significant level of non-Federal investment in the project which will directly displace the requirement for the same level of additional Federal funds. Second, by providing such financing, the probabilities increase that the project will be completed in a timely manner. This will lead to such direct effects as the initiation of project repayment, and such indirect effects as enhancement of the Arizona economy and the resulting generation of income taxes to the Federal government. Third, this cost sharing agreement, if executed, would serve as a major example of Federal/State/local cooperation in project development for the future.

Question: Can you estimate the overall cost-savings to the Federal government by adopting the Arizona agreement?

Answer: The Bureau of Reclamation estimates that on a discounted present-value basis, Federal construction costs will be reduced by $212 million.

Because of the way the Arizona contributions will be credited, there will be a reduction (again, on a present-value basis) of $30 million in future repayment revenues. Therefore, the net cost-savings to the Federal government will be approximately $182 million.

Question: Is the Office of Management and Budget required to review and approve that agreement? If so, what is the status of that review procedure?

Answer: Yes, we are required to submit the negotiated agreement to OMB for review. We have kept OMB advised of the status of the proposed agreement throughout the negotiation process. We have furnished OMB a copy of the final draft agreement and supporting documentation, and briefed OMB management on the particulars of the final agreement during the week of February 17, 1986. We hope to have comments from OMB on the draft agreement communicated to us in March 1986.

Question: The Maricopa County Flood Control District has offered $63.1 million to offset the costs of the flood control components of Cliff and modified Roosevelt Dams. In the past, flood control benefits have been considered a Federal responsibility. Does the offer made by the Flood Control District represent a precedent in this area?

Answer: We believe that the contribution by the Maricopa County Flood Control District represents a welcome recognition of the local value of the flood control benefits to be provided by the Central Arizona Project. As you correctly pointed out, flood control benefits traditionally have been considered a Federal responsibility, but with non-Federal project sponsors contributing necessary lands, easements, and right-of-way. Such a policy makes good sense when major Federal water projects provide flood control protection to a wide geographical area, and it is difficult to pinpoint a specific group of beneficiaries who would receive the majority of such benefits. Although the flood protection inherent in the Central Arizona Project will be widespread, there is a recognition by the management of the Maricopa County Flood Control District that there will be direct benefits accruing to their service area. As such, the district has appropriately offered to finance a portion of flood control costs. We believe that this does represent a precedent in this area, and one which the Administration and the Congress may wish to more closely examine in future deliberations on water resource policy.

Question: Can you explain to the Committee how the so-called "penalty" provisions in the Agreement will work for both Federal and non-Federal entities?

Answer: The Bureau of Reclamation advises me that there are bilateral incentive provisions in the agreement that operate to the advantage of the United States and the Arizona contributors. The main thrust of the those provisions of the draft agreement is to provide incentives to all parties to carry out the terms of the agreement and meet the construction and contribution schedules contemplated in the agreement.

From the United States' standpoint, implementation of those provisions occurs when some event happens, that is within the control of the United States, which will result in a delay in the completion of one or more of the main features for which non-Federal contributions are made. When such an event occurs, a percentage of one or more of the Arizona entities' contributions to date will be applied as a prepayment against the interest-bearing repayment obligation of the Central Arizona Water Conservation District (CAWCD). By treating a portion of the contributions as a prepayment, as opposed to simply reducing the overall repayment obligation of the CAWCD (which effectively "spreads" the contributions over the entire CAWCD repayment period), the CAWCD obtains a financial advantage in that its (or others) contributions are creditable to its first annual payments. Under this arrangement, although the contributions to the development of the Central Arizona Project are the same, the present value of the repayment stream to the Federal governement has been reduced. Even though the direct impact of this procedure accures to CAWCD, the Arizona entities will execute their own agreement as to the further distribution of such benefits. Also, if the Federal government manages to recover any delay for which the CAWCD obtained a prepayment credit, then the repayment credit is recoverable to the United States plus interest at the project repayment interest rate.

From the Arizona contributors' standpoint, failure to meet the contribution schedule negotiated in the draft agreement will impose an interest penalty on the contributions calculated at published Department of the Treasury interest rates applicable to overdue payments.

Finally, the draft agreement contains bilateral liquidated damages and crediting clauses against the parties for failure to comply with the agreement.

Question: Some have stated that the Federal government should not be expected to pay penalties under a cost-sharing agreement. Mr. Secretary, don't you think it would be extremely difficult to get any non-Federal entity to upfront the cost of construction of any sizeable project without some type of mechanism to insure that both parties live up to the terms of the agreement?

Answer: I feel it is reasonable for contributors to provide incentives for the Federal government to meet the objective of the agreement. Whether it is in the best interest of the Federal Government to enter into the agreement proposed for local financing of CAP is under review by the Administration.

Question Could you provide for the record an explanation of how Federal power revenues are applied to non-Federal entities in the case of Hoover Dam?

Answer: The Hoover Power Plant Act of 1984 provides for financial assistance to the CAP by including a surcharge on the power rate for Hoover energy. The rates charged to purchasers in Arizona are 4½ mills per kilowatt hour (kWh) until CAP is repaid, and then 2½ mills thereafter. For Hoover power users in California and Nevada, the surcharges are 2½ mills per kWh. These power revuenes will be collected by the Department of Energy, Western Area Power Administration, and deposited in the Colorado River Dam Fund. The funds will then be transferred by the Bureau of Reclamation to the Lower Colorado River Development Fund and applied to the repayment of the CAP.

With respect to use of Navajo Generating Station revenues, the Hoover Power Plant Act provides that those revenues can be used to help defray the expenses associated with securing contributions by non-Federal entities for the further development of the CAP.

Question: I know there has been some discussions by those who oppose the use of these revenues to repay the project. Isn't the Central Arizona Water Conservation District complying with the provisions of the Hoover Power Plant Act as passed by the Congress in 1984? Do you think this is a justified and worthwhile use of those revenues?

Answer: Yes, the Central Arizona Water Conservation District is complying with Section 107(D) of the Hoover Power Plant Act of 1984 (Public Law 98-381) which specifically permits the establishment of power rates sufficient to make payments and establish reserves for payments of funds advanced by non-Federal entities for the construction of authorized features of the Central Arizona Project. Had those funds been advanced from the U. S. Treasury, the Navajo rates would have included a rate component to repay such advances. Section 107 merely allows the use of other sources of funds, with an appropriate repayment mechanism for such funds. The Administration is reviewing this proposed method of financing part of the local share of CAP construction costs to determine if it is an appropriate use of these revenues.

Question: Can you tell the Committee how the discussions on a marketing agreement for Navajo Power is progressing?

Answer: At present, an Interim Navajo Marketing Plan is being developed and will provide for marketing of Navajo surplus energy during the initial delivery and pump testing period for CAP operations and during the pre-New Waddell Regulatory Storage period. The next meeting to further discuss and develop that marketing plan is scheduled for March 6, 1986. The current schedule is to have the Interim Power Marketing Plan executed in March 1986. The long-range Navajo Marketing Plan, which also is under development, will provide for the marketing of Navajo surplus energy during the post-New Waddell period. That plan is scheduled to be executed prior to the anticipated 1992 completion date of New Waddell Dam.

Question: When do you expect to have a final document executed?

Answer: Under our current schedule, we tentatively have planned on executing the cost sharing agreement on April 14, 1986.

Budget Outlays

Question: Could you explain how budget outlays will be reduced within the Bureau of Reclamation while the budget authority will increase?

Answer: Budgetary outlays are not necessarily made in the same year as the budget authority. Historically, for example, in the Construction Program only 70 percent of new budget authority is outlayed during that fiscal year. After obligating the funds programmed, the work may not be scheduled to be completed until the following year. Only after the work is accomplished will the outlay be made. Generally, 20 percent of the budget authority in the Construction Program will be outlayed in the following year, and the remaining 10 percent in the third year following the appropriation.

For FY 1986, the Bureau's budget authority was reduced about 30 percent from the FY 1985 level. This was intended to reduce the large carryover balances that had accumulated. Outlays in FY 1986 are estimated to be more than 20 percent higher than the budget authority, a result of outlaying previous years' and current year budget authority. In FY 1987, budget authority increases, but outlays will decrease due to the usual delay. The carryover balances will have been reduced in 1986, and therefore not as much money will be available for outlay in 1987.

Obligations, a measure of the scheduled work, is estimated to be at a lower level in 1986 and even lower in 1987 in the Construction Program. This decrease in the actual work contributes to the reduced outlay level and is consistent with the President's deficit reduction goals.

Yuma Area Projects

Question: Your testimony indicates that increases have been proposed for Yuma Area Projects because new facilities are planned to come on line for the Yuma Desalinization Plant. What activities do you have planned in FY 1987 for these projects? Is it still true that the desalinization plant will become operational in 1989?

Answer: The Yuma Area Projects represent a collection of seven projects. The desalting plant is the seventh and most recent project to join this group in the Yuma area. As more and more facilities of the desalting plant are completed, the cost of operation and maintenance will increase. In FY 1987 the increase amounts to $2,290,000 and all of it will be used to perform regular operation and maintenance of the facilities. Our goal is to construct the plant so that it is operational by 1989. The availability of adequate O & M funds is essential each year if we are to test the new equipment and place the plant in service by 1989.

Indian Water Settlements

Question: I know that representatives of your Department have been in Arizona over the past few months to discuss possible solutions to Indian water claims. Can you provide an updated report on the status of those discussions. Do you think it is possible to expect some negotiated solutions as an outcome to these discussions?

Answer: The Department has had observers at various water right negotiating meetings between Indian tribes and non-Indian water users. The discussions have been constructive and are continuing. Although the issues are difficult, we are hopeful that the negotiating sessions will result in settlements.

Question: This Administration has repeatedly stated that it intends to make the negotiation of Indian water settlements a priority. Can you tell me what progress has been made in this area?

Answer: The Department of the Interior has fielded negotiation teams to work with Indian and non-Indian water users in attempting to resolve about a dozen water rights disputes. Technical support for those negotiations is being provided by the Bureau of Indian Affairs, Bureau of Reclamation, Geological Survey, and Fish and Wildlife Service. The oversight and management of these negotiating teams is being accomplished through the Under Secretary's Working Group on Water Policy.

Question: The Papago Indian Tribe has drafted legislation which will be introduced in both Houses shortly to settle the remaining water claims the Tribe has against the Federal Government. While this legislation was not negotiated with the Department, I wonder if you could tell me your reactions to the proposed settlement?

Answer: The Department of the Interior would welcome an opportunity to consider a settlement proposal the Tribe wishes to share with us; however, we have not been asked to review such a proposal or draft legislation. Therefore, we are unable to comment on any progress that may have been made.

Gramm-Rudman Impacts

Question: Mr. Commissioner, can you tell me what impact the FY 1986 Gramm-Rudman sequestrations will have on reclamation projects? Your testimony indicates that Gramm-Rudman calls for a reduction of $30 million in outlays. What is the real impact of this cut?

Answer: The reduction of $30 million in outlays in FY 1986 called for by Gramm-Rudman requires a reduction in FY 1986 budget authority of $34 million within the Bureau of Reclamation. It is difficult to specify what delays or suspensions of work are directly attributable to the FY 1986 Gramm-Rudman sequestrations. The reductions in our planning and research programs will cause suspension, termination or delay of some studies. Some construction contract awards will be delayed which may cause delays in completion dates. Some delays may be overcome through normal reprogramming actions, but that will depend upon unforeseen circumstances on other projects.

Question: Will there be any significant impact on construction of the Central Arizona Project?

Answer: We do not expect any significant impact on the Central Arizona Project due to the Gramm-Rudman reduction.

Construction Delays

Question: With a 10 percent reduction in the Bureau's construction program for Fiscal Year 1987, will any projects be significantly delayed? If so, which ones?

Answer: Yes, since the proposed FY 1987 budget request represents a lean program, several major projects would be delayed if there was a 10 percent reduction to be absorbed. These projects are listed below:

Project/Feature	Impact of 10% cut
Central Arizona Project	
Tucson Water Delivery	Slip one additional year
New Waddell Dam	Slip one additional year
Non-Indian Distribution Systems construction	Slip one additional year
Headgate Rock Hydropower Project	High potential of interrupting structure contract. Additional cost/delays to restart.
San Luis Valley Project, Closed Basin Division	Slip one additional year
Brantley Project	Slip one additional year
Central Valley Project, San Felipe Unit	Project completion slip one year. Delay repayment
Trinity River Restoration	Delay some restoration work one year.
Columbia Basin Project, Third Powerplant	Slip completion one year.
Yakima Fish Passage Facilities	Slip completion one year.
Boise Project, D&MC	
Arrowrock Dam	Delay spillway gate restoration one year.
Payette Division	Delay construction of minimum health and safety facilities.
Pick-Sloan Missouri Basin	
Garrison Diversion Unit	If no legislation is passed to reformulate the project in FY 1986, then no impact. Otherwise, one year delay in construction.
Dolores Project	Delay irrigation and power service 1 year.
Colorado River Salinity Control Project, Paradox Unit	Delay test of deep-well disposal test one year.
Central Utah Project, Bonneville Unit,	
Diamond Fork Power	Delay initiation of power one year
Jordanelle Dam	Five-month delay in municipal and industrial water delivery to Salt Lake City.
Duchesne River Canal System Rehabilitation	Delay one year. Additional costs.
Colorado River Storage Project, Recreation & Fish & Wildlife Facilities	Two to three month delays in construction.

Cost-Sharing Discussions

Question: Besides the CAP and Animas-La Plata, are cost-sharing discussions taking place on other projects? If so, which ones and what is the status of those discussions?

Answer: Cost-sharing discussions are not taking place at this time on any project authorized for construction other than the two mentioned. Cost-sharing discussions will be reinitiated on the Auburn Dam project when a plan is identified that will be acceptable to non-Federal interest. Reauthorization legislation will be necessary to permit non-Federal cost-sharing proposals.

Central Arizona Project

Question: While I am pleased with the $202.7 million request for the Central Arizona Project, I am still interested in knowing what additional capability the Bureau has for this project in FY 1987. Can you provide that figure?

Answer: The $203.9 million requested in the fiscal year 1987 budget for the Central Arizona Project represents the Bureau's total capability for that project.

Question: I understand the budget request for the CAP assumes that an additional $8 million will become available from non-Federal entities. Is this an exact figure or could there be more of less depending on the progress made in fiscal year 1987?

Answer: The $8 million was an estimated figure. If the local funding proposal for the Plan 6 features is approved by both the state and Federal officials, approximately $11.7 million will be available from non-Federal sources.

Fiscal Year 1987 Capability

Question: What is the Bureau's total capability in Fiscal Year 1987?

Answer: Should additional funding become available, the Bureau has the capability to utilize a total of $948,285,000 in fiscal year 1987, which is $41,902,000 above the budget request of $906,383,000. Because of current budget constraints, however, we cannot recommend that funds be added to the budget request. A table showing the Bureau's additional capability is attached.

DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

Additional Capability for Projects in the FY 1987 Budget

(dollars in thousands)

Appropriation/Project	Fiscal Year 1987 Request Federal	Fiscal Year 1987 Request Non-Fed*	Fiscal Year 1987 Request Total	Capabilities Submitted Federal	Capabilities Submitted Non-Fed*	Capabilities Submitted Total	Total Capability Federal	Total Capability Non-Fed*	Total Capability Total
GENERAL INVESTIGATIONS									
Project Investigations									
Colorado River Water Quality Improvement Program	600	0	600	550	0	550	1,150	0	1,150
Milk River Water Supply Study	140	0	140	85	0	85	225	0	225
Southeast Oklahoma Water Supply Study	230	0	230	360	0	360	590	0	590
Spring Canyon Pumped Storage Project	270	270	540	1,005	1,005	2,010	1,275	1,275	2,550
Advance Planning									
Umatilla Basin Project	134	79	213	200	0	200	334	79	413
TOTAL, G. I. CAPABILITIES	1,374	349	1,723	2,200	1,005	3,205	3,574	1,354	4,928
All Other G. I. Programs	26,446	1,330	27,776	0	0	0	26,446	1,330	27,776
TOTAL, GENERAL INVESTIGATIONS	27,820	1,679	29,499	2,200	1,005	3,205	30,020	2,684	32,704

BUREAU OF RECLAMATION

Additional Capability for Projects in the FY 1987 Budget

(dollars in thousands)

Appropriation/Project	Fiscal Year 1987 Request Federal	Fiscal Year 1987 Request Non-Fed*	Fiscal Year 1987 Request Total	Capabilities Submitted Federal	Capabilities Submitted Non-Fed*	Capabilities Submitted Total	Total Capability Federal	Total Capability Non-Fed*	Total Capability Total
CONSTRUCTION									
Regular Construction									
Pick-Sloan Missouri Basin Program:									
Garrison Diversion Unit	18,000	0	18,000	13,000	0	13,000	31,000	0	31,000
North Loup Division	14,035	55	14,090	8,000	0	8,000	22,035	55	22,090
Colorado River Storage Project									
Animas-La Plata	1,000	4,235	5,235	4,235	0	4,235	5,235	4,235	9,470
TOTAL, CONSTRUCTION CAPABILITIES	33,035	4,290	37,325	25,235	0	25,235	58,270	4,290	62,560
Other Construction Programs	543,724	19,934	563,658	0	0	0	543,724	19,934	563,658
TOTAL, CONSTRUCTION PROGRAM	576,759	24,224	600,983	25,235	0	25,235	601,994	24,224	626,218

Additional Capability for Projects in the FY 1987 Budget

(dollars in thousands)

Appropriation/Project	Fiscal Year 1987 Request Federal	Fiscal Year 1987 Request Non-Fed*	Fiscal Year 1987 Request Total	Capabilities Submitted Federal	Capabilities Submitted Non-Fed*	Capabilities Submitted Total	Total Capability Federal	Total Capability Non-Fed*	Total Capability Total
LOAN PROGRAM									
Small Reclamation Projects Act Loans									
Ak-Chin Farms - East	0	0	0	2,000	0	2,000	2,000	0	2,000
Eastern Municipal Water District	1,070	0	1,070	1,000	0	1,000	2,070	0	2,070
Elsinore Valley Municipal Water Dist.	1,000	0	1,000	1,000	0	1,000	2,000	0	2,000
Ramona Municipal Water District	0	0	0	5,000	0	5,000	5,000	0	5,000
Rancho California Water District	2,533	0	2,533	5,467	0	5,467	8,000	0	8,000
TOTAL, LOAN CAPABILITIES	4,603	0	4,603	14,467	0	14,467	19,070	0	19,070
Other Loan Programs	35,338	0	35,338	0	0	0	35,338	0	35,338
TOTAL, LOAN PROGRAM	39,941	0	39,941	14,467	0	14,467	54,408	1,500	54,408
ALL OTHER APPROPRIATIONS	261,863	116,710	378,573	0	0	0	261,863	115,210	378,573
TOTAL, ALL APPROPRIATIONS	906,383	142,613	1,048,996	41,902	1,005	42,907	948,285	143,618	1,091,903

*Non-Federal amounts represent only cash advances; they do not include estimates for in-kind services.

New Waddell Dam

Power Rights

Question: My staff has spoken to the Bureau about a situation in Arizona involving the Maricopa Water District and power rights from New Waddell Dam.

Does the Bureau have a conflict with the Federal Energy Regulatory Commission (FERC) over licensing jurisdiction at Bureau dams? Would the Bureau support general legislation making it clear that the FERC would have no licensing jurisdiction at any authorized Bureau project where Congress has authorized power production as a project purpose?

Answer: We believe where Reclamation is authorized to develop the power potential of a site as mandated by various acts of Congress, there is no conflict between the FERC and Reclamation.

Construction Carryover

Question: Your testimony seems to indicate optimism that the Bureau will reduce the large carry-over balances that have appeared in the past. Could you explain how you hope to bring those carry-over balances down?

Answer: The unobligated carryover primarily from the FY 1985 Construction Program was largely due to circumstances beyond our control. These included bad weather, lawsuits, contractor progress, repayment contract problems, the Teton Dam Claims reserve fund, and the late appropriation of funds for new starts.

Because of the growing concern over the carryover, the Bureau's FY 1986 Construction appropriation request was substantially reduced. As we presently view our funding situation, we expect full utilization of both the carryover and the FY 1986 appropriation.

Central Arizona Project

Carryover Balances

Question: I understand work on the CAP is on track at this point. Do you think we will end up with any significant carry-overs in fiscal year 1987?

Answer: There will not be a significant carryover of funds from fiscal year 1987 to fiscal year 1988.

Underfinancing

Question: How much underfinancing will be applied to the CAP in FY 1986? What are your estimates for underfinancing for FY 1987 on the CAP? What about other Reclamation projects?

Answer: The underfinancing applied to CAP in FY 1986 is $23,975,000. However this has been applied after allocating the $14 million of unobligated balances from the Teton Dam Failure Claims account the Congress allowed to be used within the Construction Program in FY 1986. Therefore, the net funds available for CAP in FY 1986 is $180,025,000 or a reduction of 5.2 percent from the amount allocated to CAP in Conference Report 99-307. This compares to the 14.6 percent reduction applicable to the total Construction Program. Other Reclamation projects have been assigned varying amounts of underfinancing depending on delays or savings to accommodate the full

$89,500,000 of underfinancing applicable to the FY 1986 appropriation for the Construction Program.

Underfinancing for FY 1987 is not assigned to the various projects until the FY 1987 appropriation and the amount of the undistributed reduction based on anticipated delays (underfinancing) for the Construction Program is known. The underfinancing is then applied to those projects that have experienced some delays or slippage caused by non-funding reasons or have had savings due to good bids or better than anticipated construction progress.

Groundwater Recharge Demonstration Program

Question: I note no funds have been requested for the Groundwater Recharge Program for Fiscal Year 1987. Are the FY 86 funds sufficient to keep the program on track? Could you give us an update on where the program stands now?

Answer: The Fiscal Year 1986 Energy and Water Development Appropriation Act (P.L. 99-141) contained $500,000 for the Groundwater Recharge Demonstration Program, which is the full amount authorized for the 24-month Phase I activities (planning and site nomination). We expect to carry over some of that money for Fiscal Year 1987 activities.

The Program was officially initiated in December 1985. In October 1985, a workshop was conducted to introduce State representatives and staff from Reclamation, Geological Survey, and Environmental Protection Agency to the concepts and strategies of the program. Additional information requested by the States on the proposal development portion of Phase I, a non-Federal activity, was prepared and transmitted. Currently, States and other non-Federal entities are preparing site nomination proposals to be submitted to Reclamation by the Governors of each of the 17 Reclamation States. A letter report on the status of program activities, as mandated by the law, will be prepared at the 6-month mark and transmitted to Congress.

Pima County/Santa Cruz River Ground Water Project

Question: As you will recall, the Congress appropriated $150,000 for a ground-water recharge demonstration project in Pima County in Fiscal Year 1986. What progress has been made on this project?

Answer: The plan of study has been developed and is in the final stages of review and completion. Activities during the remainder of this year will include coordination with local entities and other Federal agencies assessment of current water quality standards for reclaimed effluent, evaluation of the economic feasibility of treating water by recharge, and monitoring the results of the demonstration project that will be conducted by the city of Tucson for water cost and quality parameters.

Question: Why were no funds requested to continue this project in Fiscal Year 1987?

Answer: Funds in the amount of $100,000 were included in the fiscal year 1987 Budget request for the Pima County/Santa Cruz River Ground Water Project. The study is scheduled to continue through fiscal year 1988.

New Waddell Dam

Maricopa Water District Settlement

Question: I understand that Maricopa has been attempting to obtain agreement by the Bureau on a number of issues involved in that transaction for just about a year, but that certain matters are still unresolved. When do you expect to be able to respond definitively to Maricopa's statement of principles presented to the Bureau last September?

Answer: The Bureau has made a preliminary response to each of the points contained in Maricopa Water District's (Maricopa) statement of principles. A final counter proposal by Reclamation to Maricopa's statement of principles is expected to be made about April 1, 1986.

Question: Do you envision the need for legislation on any of Maricopa's proposals?

Answer: In order to fully comply with the intent of the statement of principles presented to Reclamation by the Maricopa, Federal legislation would be required. The Field Solicitor has noted that 43 USC 498 prohibits Reclamation officials "from transferring title to project works, or any part of project works, to a user association, water district, or any other entity without the consent of Congress." No such consent of Congress exists and Congress has never amended the prohibition clause of Section 498. Similarly, some other aspects of the principles may require legislation.

However, Reclamation does not propose legislation. The counter proposal to Maricopa's statement of principles will be based on existing authorities and interpretations of law. It is our current contention that satisfaction of all of Maricopa's statement of principles, whether by new legislation or by other means, would result in substantial benefits to Maricopa. Reclamation's position is to protect and preserve, or take and compensate, for all of Maricopa's legitimate interests in Waddell Dam.

Question: I understand that one of the troublesome issues is how to recognize Maricopa's present power generating potential at Waddell Dam in the replacement outlet works to be constructed for Maricopa at New Waddell in light of the uncertainty created by the conflict between the Bureau and the Federal Energy Regulatory Commission over the respective responsibilities of those agencies concerning power production at Bureau dams. Would you care to comment on that? Would the Bureau support general legislation to make it clear that the FERC would have no licensing jurisdiction at any authorized Bureau project where Congress has authorized power production as a project purpose?

Answer: In conjunction with the Central Arizona Project, the Secretary of the Interior has approved the construction of the New Waddell Dam on the Agua Fria River. The reservoir created by the New Waddell Dam would inundate the Maricopa Water District's (Maricopa) existing Waddell Dam. Maricopa had been studying the feasibility of installing a hydropower plant at the base of the existing Waddell Dam.

In agreeing to Reclamation's plans to construct the New Waddell Dam, Maricopa, among other things, has proposed that it be given the exclusive right to develop hydropower on the Maricopa side outlet works at the new dam.

Title III of the Colorado River Basin Project Act, P.L. 90-537, dated September 30, 1968, gives the Secretary of the Interior exclusive authority to construct the related hydroelectric powerplant at the New Waddell Dam site. There is no jurisdictional dispute between the FERC and the Bureau on the authority of the Bureau to develop the hydropower potential of the New Waddell Dam site.

Question: I understand that the public recreation at existing Lake Pleasant, which is the reservoir created by Maricopa's construction of Waddell Dam, is currently managed by the Maricopa County Parks Department pursuant to an agreement with Maricopa, and that Maricopa receives a portion of the net revenues from the user entrance fees collected by the Parks Department. Maricopa tells me that the Bureau has been negotiating for some time with the Parks Department for that agency to manage the public recreation opportunities at New Lake Pleasant and has even agreed to compensate the Parks Department for curtailment of certain recreation uses during the preconstruction and construction phases at New Waddell. Since Maricopa claims the existing legal right to manage public recreation at Lake Pleasant, why hasn't Maricopa been involved in those discussions?

Answer: The Lake Pleasant Regional Park, which encompasses the Waddell damsite and reservoir, is located largely on lands owned by the State of Arizona and leased to the Maricopa County Parks Department for public recreation purposes. As part of its ongoing preconstruction activities in the area, Reclamation has disturbed, and proposes to further disturb, existing recreational developments in the Park. These facilities were constructed with matching funds from the County Parks Department and the Federal Land and Water Conservation Fund. Because of the Federal cost-sharing in this Park, replacement for losses due to Reclamation activities are required under the law.

Since the County Parks Department is the leasee, operator, and co-funder of the facilities being impacted, it is the appropriate entity to deal with regarding future planning, replacement of facilities, and other compensation for losses due to Reclamation activities. Under its contractual arrangement with the County Parks Department, the Maricopa Water District (MWD) has no interest in or claim to the revenues derived from facilities currently being impacted by Reclamation.

Also, while we have attempted to keep MWD fully informed of Reclamation's dealings with the Parks Department, we would expect these two parties to mutually resolve any claims or impacts arising from their contractual arrangement.

Question: Has the Bureau made any decision with respect to selection of the operating agency for New Waddell?

Answer: No final decisions have been made by Reclamation on the operating agent(s) for New Waddell. Current plans are for the Central Arizona Water Conservation District to be the operating agency for the CAP aqueduct system and New Waddell Dam and appurtenances, while Maricopa County Parks Department would continue in its current capacity as the operating entity for the Regional Park and its public recreation facilities.

Central Arizona Project

Question: Your budget justification indicates that water deliveries from Pima County are scheduled for 1989 and for the Tucson area for 1992. Am I correct to assume that water deliveries originally proposed for 1991 for Tucson are being delayed? Please explain.

Answer: The original proposal of water delivery to Tucson in 1991 has not changed. The 1992 water delivery date refers to delivery of water to the community of Green Valley and the San Xavier Indian Reservation which is south of the City of Tucson.

Question: Could you break out from your budget justification exactly how much will be spent in fiscal year 1987 on Tucson Phase A and Tucson Phase B legs?

Answer: In fiscal year 1987, funds will be spent as follows:

(In Thousands of Dollars)

	Phase A	Phase B
Canals & Pipelines	8,307	27,477
Pumping Plants	20,290	15,261
Transmission Lines	50	2,232
Control Cables	593	0
Total	29,240	44,970

Question: Last year I was told a total of $94 million in funding for the Tucson Division would be necessary to maintain the 1991 water delivery date. Why has only $75 million been requested in fiscal year 1987? How do you explain this difference? Is additional money necessary to keep the water delivery date on track? If so, how much?

Answer: The $94 million estimate was preliminary for fiscal year 1987. This estimate has been reduced to reflect more refined contract estimates, and to defer noncritical land purchases and other miscellaneous work items to future years. We do not expect deferral of these items to impact on our ability to meet the scheduled water delivery to Tucson by 1991.

Question: $13.6 million has been requested for fiscal year 1987 Indian Distribution Systems. Your justifications indicates that this will allow work on one system. Why are funds not being requested for other Indian distribution systems? When can we expect the Bureau to move these along?

Answer: For fiscal year 1987, $8.8 million has been scheduled to support the ongoing construction of the Santa Rosa Canal which will serve the Papago/Chui Chu and Ak-Chin Indian Communities. $2.8 million has been scheduled to continue construction of the Ak-Chin Indian CAP distribution system. The remaining $2.0 million will be used to accomplish advance planning studies, prepare environmental documents, gather design data, and prepare designs and specifications for the Salt River Pima-Maricopa, Fort McDowell, Gila River Papago/Chui Chu, Papago/Schuk Toak, and Papago/San Xavier Indian Communities. Construction is scheduled to begin in fiscal year 1988 for the CAP delivery and distribution facilities serving the Salt River Pima-Maricopa and Fort McDowell Indian Communities.

Question: My office has been told by the Construction Engineer for the CAP that bids will open on Tucson Phase B on March 19 and construction work will begin on April 4. Is there any reason to believe that these dates will slip? If yes, please explain?

Answer: Yes, it is possible these dates could slip. Seven environmental groups have filed suit in the U.S. District Court in Phoenix, Arizona, to halt the acquisition of property and the construction of the CAP Tucson Aqueduct Phase B. The group charges the Secretary and officials of the Bureau of Reclamation with violating the NEPA in their selection of a westside route of the aqueduct.

Question: Your budget request includes $49 million for the Regulatory Storage Division of the CAP. Can you explain specifically what preconstruction activities will continue on New Waddell Dam, Modified Roosevelt Dam, and Cliff Dam and how much money has been requested for each activity?

Answer: Our budget request in fiscal year 1987 for preconstruction activities for the Regulatory Storage Division includes $2.5 million for Waddell Dam, $3.0 million for Modified Roosevelt Dam, and $0.1 million for Cliff Dam. Preconstruction activities include geologic exploration, drilling, collection of design data, and preparation of specifications. The balance of the $49 million will be used on construction work on New Waddell Dam and Modified Roosevelt Dam.

Buttes Dam

Question: $10,000 has been requested for preconstruction activities for the Middle Gila River Division. Can you explain specifically what this money will be used for?

Answer: In mid-1985 local interests had concerns that all the benefits may not have been identified. Reclamation is reexamining the potential benefits associated with Buttes Dam for sediment control, power peaking, CAP floodwater storage, recreation, exchange water storage, and flood control.

Question: What progress is the Bureau making on its reevaluation of Buttes Dam taking into account possible Indian water settlements? Please explain.

Answer: The preliminary reanalysis of the benefits of Buttes Dam is expected to be completed by September 1986 and will consider reexamining the water supply, sediment control, flood control, recreation and hydropower benefits. This reanalysis will also consider the availability of any new water supply realized by construction of Buttes Dam for possible settlement of Indian water rights.

Question: I note the Bureau has requested $822,000 for preconstruction activities and environmental studies on the Upper Gila River Basin. Could you update the Committee on what progress is being made on the Study of Hooker Dam and alternatives? When will a determination be made on the feasibility of Conner Dam? Can the environmental problems be mitigated?

Answer: An agency proposed action will be announced on June 15, 1986. In accordance with the Congressionally mandated schedule, a draft EIS will be available in September 1986 and the final EIS may be available in September 1987, depending on the outcome of the endangered species question.

There are several aspects of feasibility with respect to Conner Dam. Conner Dam has been shown to be technically (engineeringly) feasible. The economic and financial feasibility of Conner Dam is under investigation and will be available in April 1986.

The environmental feasibility of Conner Dam is still in question. The Fish and Wildlife Service anticipates that two fish species that occur in the reservoir area will be listed as threatened in June 1986. If that occurs, a Section 7 consultation between the Bureau and the USFWS will be necessary. The Bureau has conferred with the Fish and Wildlife Service on this matter and the Fish and Wildlife Service has indicated that the listing would result in a jeopardy opinion on Conner Dam, and no modification of the structure could reduce the impact.

Mitigation strategies for Conner Dam are being developed by the Bureau. The USFWS has indicated that the impacts of Conner Dam on threatened species (if the fish are listed) could not be mitigated.

Question: Groups in the Graham County area are concerned that the Bureau and the Corps are not sufficiently coordinating their efforts on the Upper Gila River study. How would you feel about a coordinator being designated for both agencies on this project?

Answer: The designation of a coordinator would be unnecessary. The Corps and the Bureau had a MOA which lapsed in September 1985. It was not renewed because the joint formulation activities that the two agencies had cooperated in had been completed. Conner Dam is the preferred flood control solution for Graham County. Because the Bureau has not yet selected a recommended plan, the Corps has continued to examine other flood control options in Graham County.

Personnel Decisions

Question: Ed Hallenbeck has a long history of knowledge and experience with the Central Arizona Project. He has been named Acting Regional Director for the Lower Colorado River Basin. Can we expect a decision to be made shortly on whether or not the acting title will be made permanent?

Answer: Mr. Hallenbeck was appointed Regional Director of the Lower Colorado Region of the Bureau of Reclamation effective February 18, 1986.

Question: The same is true for Larry Morton who is now the Acting Project Manager for the CAP. Can we expect this appointment to be made permanent soon?

Answer: The newly appointed Regional Director is reviewing several options in that matter and we expect an early resolution.

Safety of Dams

Question: Your budget request includes $1.1 million for Roosevelt Dam and $2.3 million for Stewart Mountain Dam. Does the Bureau have additional capability for these two projects in FY 87? Please detail.

Answer: No, Reclamation does not have any additional capability in FY 1987 for additional work on Roosevelt and Stewart Mountain Dams. The amounts requested are adequate to perform all scheduled work.

Question: The FY 86 Conference Report on the Energy and Water Development Appropriations bill directed the Bureau to transfer from other projects if additional funds could be used for safety of dams work on Salt River Project Dams. Does the Bureau think this will be necessary in FY 86? If so, do you plan to transfer funds from other accounts?

Answer: No, a transfer of funds should not be needed in FY 1986. The funds available for FY 1986 are adequate to do the work as programmed. If the need should arise for additional funding, then funds will be transferred as available.

Headgate Rock Hydroelectric Project

Question: The budget request contains $6.8 milliion for continued construction on Headgate Rock Dam in Fiscal Year 1987. What is the Bureau's additional capability on this project? How is construction progressing on the $8.3 million made available in the FY 85 Supplemental?

Answer: The project has no additional capability in fiscal year 1987. The requested $6.8 million will meet the project's needs through fiscal year 1987. Bids were recently opened for furnishing and installing the turbines and generators. Award of this contract is scheduled for April 1986. The contract for construction of the powerplant structure and appurtenant works is now scheduled for award in November 1986. The project is scheduled to be completed by 1989.

Question: How will the repayment for the power benefits be allocated?

Answer: Power benefits for the Headgate Rock Dam Powerplant will be allocated as follows: $14,014,000 to irrigation and $50,226,000 to power. Upon completion of construction, the Bureau of Indian Affairs (BIA) will assume full responsibility for operation and maintenance. The BIA would also be responsible for establishing rates for marketing the power to the Colorado River Indian Reservation. The BIA will establish rates for this project sufficient to totally amortize construction costs, without interest, over a 40-50 year period, consistent with its current policy for repayment of hydroelectric projects.

Spring Canyon Pumped Storage Project

Question: I note the Bureau has requested only $270,000 for the Spring Canyon Pump Storage Project in Fiscal Year 1987. I understand that the scope of the project has been reevaluated and now costs are in the range of $4.8 million. Local participants have agreed to pay 50 percent of this cost. Why was additional money not requested to respond to the increased needs for this project in Fiscal Year 1987?

Answer: Due to budget constraints, the $270,000 requested is all that could be allocated to this study and maintain a well balanced project investigation program and meet other commitments.

Question: What is the Bureau's capability on this project in FY 87?

Answer: Our additional capability for the Spring Canyon Pumped Storage Project for fiscal year 1987 is $1,005,000 which would result in a total Federal fund amount of $1,275,000. Non-Federal cost-sharing funds would be available to match the amount of Federal funding in Fiscal Year 1987.

Colorado River Flooding

Question: With all of the concerns about flooding in California and Nevada, does the Bureau anticipate any serious flooding will occur along the Colorado River this year? What plan does the Bureau have in mind for mitigating any potential problems that could occur?

Answer: We expect no flooding along the lower Colorada River this year. The current forecast for spring runoff is about 150% of normal in the Colorado River Basin upstream from Lake Powell. Based on that forecast, we will be increasing flows along the lower Colorado River from about 20,000 cubic feet per second (cfs) in February to about 26,000 cfs in March. That figure compares favorably to peak flows of 28,000 cfs in 1985, which caused no flooding problems. We have about 8.2 million acre-feet of flood control storage space in th reservoir system, which is more space than we have had on March 1 for the past three years. This extra storage space gives us the flexibility needed to prevent having to make large damaging releases in case the actual runoff is considerably greater than the forecast.

QUESTIONS SUBMITTED FOR THE RECORD BY SENATOR KASTEN

Chairman HATFIELD. The Senator from Wisconsin.

Senator KASTEN. Mr. Chairman, thank you.

I don't have a specific question, but I would like permission to place a couple of questions in the record.

Chairman HATFIELD. The Senator's material will be accepted into the record.

[The questions and answers follow:]

QUESTIONS SUBMITED BY SENATOR KASTEN

FOREIGN ACTIVITIES

Question. It is my understanding that in 1979, a U.S. Government advisory delegation, which included then-Assistant Secretary of the Department of Interior Guy Martin, and Lt. Gen. John Morris of the Army Corps of Engineers, concluded that the Three Gorges Dam project in China was a waste of money. Yet it is my understanding that the Bureau of Reclamation is still involved in the project and lending support to that project. What is the Bureau's current position on the Three Gorges Dam project and what assistance, if any, is it currently lending to the project?

Answer. The Three Gorges project in China has been studied for over 40 years. There are serious questions concerning the project funding, population relocation required, and the impacts on sedimentation and navigation on the Yangtze River upon which studies are continuing. If the Government of the People's Republic of China decides to go ahead with the project, the Bureau stands ready to assist in the technical problems to ensure that the project is built to state-of-the-art standards and with the best possible project management. The assistance being provided is 100 percent reimbursible by the Chinese and the 1986 level of funding is U.S. $400,000.

ICE AGE NATIONAL SCIENTIFIC AREA

Question. Mr. Secretary, I have a question which does not relate to the Bureau of Reclamation but is an issue of the Interior Department's jurisdiction. Specifically, I am concerned about the Ice Age National Scenic Trail. What would be your reaction to a plan to consolidate the Ice Age National Scientific Area into a single administrative unit of the National Park Service?

Answer. The National Park Service currently provides limited financial support as well as technical assistance to the Advisory Council for the Ice Age National Scenic Trail. In addition, the National Park Service shares with the State of Wisconsin the operating costs for the Ice Age National Scientific Reserve. Given the need to limit Federal outlays, I believe the present level of support provided by the National Park Service is appropriate.

LAFAYETTE PARK VISUAL POLLUTION

Chairman HATFIELD. Are there any other questions?

Mr. Secretary, you recall that last year we had the discussion about the visual pollution in Lafayette Park. Your testimony indicated that based on recent court decisions, the National Park Service was considering the possibility of coming up with some regulations governing the use, and the placement and size of the signs and other objects around the White House. Can you update me on the activities on this subject?

Secretary HODEL. Mr. Chairman, as a result of those discussions and other observations and activities of the Park Service, we proposed in August of last year, for public comment, rules which would limit the signs and limit the utilization to which signs could be put.

In other words, people could no longer live under them; the final regulations are at the Office of Management and Budget now. As we know, as in all of the public review and comment periods, OMB participates in the process of making regulations. I have no reason to believe they have encountered any problem there. If that is correct, I would expect reasonably soon to be able to publish them in the Federal Register as final regulations.

Chairman HATFIELD. Have these proposed regulations been changed or modified substantially as a result of the public hearing process?

Secretary HODEL. I don't think substantially. I think there may have been some modest revisions as a result of comments, but I think the basic thrust as to the size of the signs, their height, the thickness, the fact that they have to be manned and the like are still a part of those regulations.

Chairman HATFIELD. And that they are not to be permanently established?

Secretary HODEL. That is correct.

Chairman HATFIELD. And they should be carried away with the person who is making a statement when he leaves?

Secretary HODEL. That is my understanding, yes.

Chairman HATFIELD. Mr. Secretary, there is no one that would defend the right of free speech more than I, but at the same time, I do not consider free speech to be by the square foot. I think that there is some responsibility to the rest of the public that certainly does not deny our rights of having something of beauty visible.

I think that it is absolutely outrageous that we have permitted this for this length of time. I go by the White House many times over a period of a month, at different hours of the day, and many times, there is not a soul within sight of these signs that are setting there—they might as well be permanently erected. I think it is certainly no infringement at all on the right of free speech for a person to carry his statement and leave with the statement when he leaves.

One of these days, if we can't get some action out on this, I may organize a vigilante group to get rid of those signs [laughter]. I just may.

Secretary HODEL. Senator, I would urge you to think carefully about that. I don't want the Park Police to come out and arrest [laughter] any member of this committee, much less the chairman.

Chairman HATFIELD. It will be a bipartisan vigilante group. [Laughter.]

Mr. Secretary, I do have a number of other questions that I will submit to you for the record,. Thank you, again, for your responsiveness.

HOOVER DAM VISITOR CENTER, ARIZONA-NEVADA

I do have one final question. Where are we on the visitor's center at the Hoover Dam, the replacement, that project that I am interested in?

Secretary HODEL. It is progressing, and I know a matter of considerable interest to you has been the kind of recognition of the service performed by President Hoover when he was Chairman of the Compact which brought about the possibility of building Hoover Dam, and I believe that the plans which have been made to recognize that role are acceptable and the project is proceeding as far as the visitor's center is concerned now.

The architectural-engineering firm contract has been issued, or is to be issued, this week, I am advised by the Commissioner.

So I think we are going to have that. Incidentally, in response to your concern on that, I had occasion to read a number of very interesting articles, pieces about the service that had been performed by President Hoover in making that dam possible.

Chairman HATFIELD. As you know, I am not looking for a political billboard, but at the same time, as a history buff, I think when visitors go there, they ought to know whether it is J. Edgar Hoover, Hoover vacuum sweepers [laughter] or President Hoover for whom the dam is named. There is not much evidence there to know, frankly, why the dam has the name it has.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY CHAIRMAN HATFIELD

Overview

Question: The 1987 budget request for the Bureau of Reclamation is $851,200,000. This is an increase of 14.3% over the Gramm-Rudman-Hollings reduced level, and 9.4% over the 1986 level of appropriations. These are sizable increases, particularly when other domestic programs and activities of the Department of the Interior are having to take large cuts.

Why do you believe such a large increase is warranted?

Answer: There has been a lot of confusion about the direction of the Bureau of Reclamation's budget. It should be made clear that the Bureau's budget as properly measured in total dollars available for obligation and in terms of expenditures, decreases in FY 1987 relative to FY 1986. The following is an explanation of how this happens despite an increase in budget authority.

In FY 1987, we are requesting from the Congress a budget authority level of $853 million which represents an increase of $109 million over the 1986 budget authority level. Our budget documents also show an increase of $44 million in our permanent and trust appropriation accounts over the FY 1986 level of $37 million. This latter increase represents estimated contributions from project beneficiaries in the form of non-Federal up-front financing for several projects such as Central Arizona Project and Buffalo Bill Dam Modifications, and the funds that the utilities are contributing to uprate the generators at Hoover Dam. They are not Federal dollars and will not contribute to the deficit.

Although requested budget authority increases by $109 million in FY 1987 ($77 million of which is in the construction program) using that figure to determine the proper size of Reclamation's budget and comparing it to FY 1986 creates a gross distortion. This is because budget authority is only a partial source of funding in FY 1986. (See attached table.) Because of the availability of large unobligated balances from prior years, the FY 1986 construction program of approximately $600 million is being financed by $499 million in budget authority and over $100 million in unobligated balances carried over from prior years. In FY 1987, the construction program of $577 million is financed entirely by new budget authority, as we are planning to exhaust all of the unobligated balances in FY 1986.

Therefore, the correct comparison of the size of the construction program in FY 1986 and 1987 is the total dollars available for obligations, which are $600 million and $577 million, respectively. Instead of an increase in the program, as represented by the budget authority levels, the construction program is in fact decreasing by $23 million. Further, in terms of outlays (i.e. expenditures) the construction program is decreasing by $65 million from 1986 to 1987. "Expenditures" is the proper category used to measure the deficit. The $65 million decrease is part of the President's deficit reduction plan. In sum, rather than increasing, the Bureau of Reclamation's budget is, in fact, decreasing.

The attached table compares the budgetary resources for FY 1985, 1986, and 1987. It displays budget authority, obligations, and outlays to give a full picture of the Bureau of Reclamations' budgetary resources.

DEPARTMENT OF THE INTERIOR

BUREAU OF RECLAMATION

Budget Authority, Obligation Target and Outlays
FY 1985 through FY 1987
(in thousands of dollars)

	1985			1986			1987		
	BA	Actual Obligations	Outlays	BA	Oblig Target 1/	Outlays	BA	Oblig Target 1/	Outlays
Loan Program	67,537	56,496	59,531	37,624	48,125	48,986	39,941	45,021	50,252
Construction	754,300	710,982	661,572	499,267	600,089	689,300	576,759	576,939	624,463
GI	35,566	37,394	33,504	32,571	33,176	34,916	27,820	27,849	29,437
Emergency	1,000	1,343	2,091	957	1,002	974	1,000	1,000	983
O&M	149,689	140,816	141,291	126,960	140,479	133,389	150,000	150,124	142,426
GAE	58,917	51,385	48,937	47,084	63,202	63,094	51,200	51,225	53,790
WCF	--	--	--	--	--	--	6,400	6,400	6,400
Total - Annual Appropriations	1,067,009	998,416	946,926	744,463	886,073	970,659	853,120	858,558	907,751

1/ Obligation target = total dollars available to obligate and carry out the program. The difference between the obligation target and budget authority is the amount of unobligated funds carried over from previous years.

Question: Does the large increase accelerate project completion schedules? If so, please explain the rational[e] for this policy decision. What has changed over the past year to justify such a large increase in this area?

Answer: No. As was explained previously, we will have less total funding in FY 1987 than in 1986. The 1987 budget, therefore, does not accelerate project completion schedules.

An examination of the FY 1987 Budget Justifications will show that six projects have completion dates which were accelerated when compared to the dates indicated in the FY 1986 Budget Justifications. However, all of the accelerations were made possible through the availability of funds reprogrammed during FY 1985. Since completion of the 1987 Justifications, the Gramm-Rudman-Hollings reductions have been applied, and we have not made an analysis of changes in completion dates due to these reductions. However, we estimate that the completion of some projects may slip from one to three months due to the application of Gramm-Rudmam.

Question: Does the increase in the 1987 budget restore the program schedules to the pre-Gramm-Rudman levels?

Answer: No it doesn't. No effort was made in the 1987 budget to adjust the completion dates as presented in the FY 1986 Budget Justifications. The Gramm-Rudman reduction came subsequent to the Administration's 1987 budget decisions.

Gramm-Rudman-Hollings

Question: Reclamation will lose more than $33 million under Gramm-Rudman-Hollings. What impact will this reduction have on your programs, particularly on projects in the construction accounts?

Answer: We anticipate a reduction of that amount will have some negative impacts. However, some flexibility within each account remains in that transfer and reprogramming of funds is allowable. Actual impacts to individual projects will probably not be available for some time. An overview impact statement covering our entire programm has been prepared and a copy is provided.

IMPACTS OF REDUCTION

- No facility or unit closures are anticipated to be needed to meet the GRH reduction levels nor are there any permanent employee terminations or furloughs planned.

- Reduction in planning program will cause suspension of some on-going contracted studies (thereby delaying report completion dates) and some planning assistance to States would be reduced.

- In the Engineering and Research component, atmospheric research activities would be delayed; in the Program Related Engineering and Scientific Studies area, two major studies would be terminated and several others would be delayed.

- Some construction contract awards will be delayed. A few projects may have potential for contractor shutdown or delays in rights-of-way acquisition and relocation activities. Other projects would defer recreation, fish and wildlife activities.

- Ultimately, the various delays on construction projects may create delays in completion dates. Such delays may increase the ultimate construction cost because of inflation, and payment of claims will

result if terminations are involved. (There is probably sufficient reprogramming flexibility to avoid contract terminations.)

- **Preparation of some safety of dams reports could be delayed.**
- **The reduction in Operation and Maintenance has the potential of long-term effects on the operating efficiency of water and power facilities. Potential operational problems at sites could occur without timely completion of maintenance efforts scheduled for FY 1986. The progress on the safety of the Bureau's dams and continued research into design, construction, and maintenance of water resource features may be slowed somewhat and initiation of remedial measures deferred.**
- **One or more loans may face a possible delay in contract awards, as well as in scheduled project completion dates.**
- **The Bureau may leave some management positions unfilled, delay or cancel management training, defer purchase of equipment, reduce travel and reduce technical assistance to other entities and agencies.**
- **Scheduled uprating now underway on several of the power plant generators at Hoover Dam may be delayed. Annual payments to the States of Nevada and Arizona will be reduced as well as interest payments to the Treasury.**

Question: Is there any way to estimate the increased cost associated with the Gramm-Rudman reductions because of schedules delay? What do you estimate to be the net savings?

Answer: A preliminary survey indicates that completion dates may slip a few months on a sizeable number of construction projects. For some projects the funding reduction can be minimized by shifting available funds from one project to another through fund transfers or reprogrammings where delays or savings have occurred due to non-budgetary causes. Such funding adjustments are expected to continue to the end of the fiscal year. Another factor that makes it difficult to estimate the increased cost is the fact the Gramm-Rudman-Hollings reduction is much smaller than the decreased budget authority already existing between FY 1985 and FY 1986. It would be extremely difficult, if not impossible, to estimate the incremental increased cost associated with the Gramm-Rudman-Hollings reductions.

Question: What would be the impact of a 15-20% reduction in 1987 on your programs and activities?

Answer: A 15-20% reduction to the FY 1987 request would be approximately $150 million which would reduce the $853 million request to approximately $700 million. Such a sizable reduction would likely have severe consequences, in terms of significant project delays, increase in project costs, and significant reductions-in-force. An allocation to each account of such a reduction and a detailed determination of the impacts would be extremely difficult and would take considerable time. In the Loan and Construction Programs most projects would be delayed by one to three years, as would studies in the General Investigations program. In the Operation and Maintenance Program necessary periodic maintenance would be deferred in many cases, but repair and rehabilitation of older facilities would proceed.

Question: What would be the impact on employment, construction schedules, and the like?

Answer: First, we would assume that the majority of a $150 million reduction in the FY 1987 request would be applied to the Construction and Loan Programs. We estimate the impact of each $1 million appropriated to those accounts will result in employment of 18 direct workyears and 32 indirect workyears. Therefore, the impact on employment would be the loss of approximately 2,700 direct workyears and 4,800 indirect workyears resulting from a $150 million reduced appropriation. Also such a reduction would extend the period of construction on many projects by one to three years. In addition, there might also be a reduction-in-force of Federal employees, given a reduction of this magnitude.

Question: The Continuing Resolution defined in detail what a program, project or activitiy was as it pertained to the Energy and Water Subcommittee. Has this language hampered your ability to carry out your work in an efficient and effective way, particularly your construction activities? Do you believe this definition is workable or is more flexibility needed? Would you care to recommend alternative language that would provide more flexibility and optimize program execution?

Answer: Because the Continuing Resolution allowed us to continue to use transfer and reprogramming authority, we believe we have sufficient flexibility in fiscal year 1986 to efficiently manage the construction program in light of Gramm-Rudman-Hollings reductions. However, should future budgets require across the board reductions of much greater magnitude, then we would probably lack sufficient management ability to operate efficiently and effectively. The reason for this is that if sizeable reductions have to be made in the future the present language would not permit us to eliminate funding for any projects. However, the most efficient way to operate within a very constrained budget could be to defer some project work into the future to allow completion of other projects on as efficient a schedule as possible.

National Water Policy

Question: Mr. Secretary, last year you indicated to a Congressional Committee that the operative questions in water resource development were not ones of quantity, but were ones of availability (distribution) and quality. You further testified that "These issues must be addressed by all levels of government, local, State, and Federal, in order to be addressed effectively." Is this still true?

Answer: Yes, I continue to believe this is true.

Question: In your view, given the major policy issues involved, who is best suited to provide the coordination and leadership necessary to solve these important issues?

Answer: Since primary responsibility for water resources management rests with the States, and since water quality and quantity problems tend to differ from State to State and region to region, the States are best suited to provide the coordination and leadership necessary. State officials, working through organizations representing multi-State interests, such as the Interstate Conference on Water Problems and the Association of State and Interstate Water Pollution Control Administrators, are best able to solve these issues.

Question: Is the Federal government currently providing any comprehensive coordination needed to help solve multi-county, State, and regional problems?

Answer: A range of Federal statutes, including the Clean Water Act and CERCLA, and Federal programs define the Federal role in water policy issues. Programs of the Department of the Interior, U.S. Army Corps of Engineers, U.S. Department of Agriculture, U.S. Environmental Protection Agency and the Tennessee Valley Authority, which are coordinated in cooperation with local, State, and interstate organizations help solve multi-county, State and regional problems. In addition, the U.S. Geological Survey provides coordination for water resources information nationwide and has broad responsibilities for coordinating water research.

Question: How can the current system be improved to provide more effective coordination while not forcing a Federal solution to a State or local problem?

Answer: The current system can be improved by enhancing public education on water resources problems and by continuing to encourage State and interstate initiatives to solve shared problems. Also, coordination can be enhanced by increasing non-Federal participation in Federal water resources development activities. By this I mean not only upfront cost sharing, but also more interactive participation in project planning and evaluation.

Lafayette Park Visual Pollution

Question: Mr. Secretary, you recall that last year we had a discussion about the visual pollution in Lafayette Park. Your testimony indicated that, based on recent court decisions, the National Park Service was considering possible changes to tighten the regulations governing the use and placement of signs and other objects around the White House. Can you update me on activities in this area? Have the regulations been changed? In not, please explain why. If regulations are currently being revised, when do you expect them to go into effect?

Answer: In August, 1985, the National Park Service issued proposed regulations for Lafayette Park, which would limit the size and number of signs permitted under First Amendment permits and prohibit most structures except those which can be handcarried and speaker's platforms for groups of 100 or more or soapbox-type platforms for groups less than 100. Justification for the regulations was based on aesthetics, public safety, historical values of the park, the protection of park features, and the use of the park by casual visitors. The final regulations have been reviewed by OMB and were sent to the Federal Register on February 28, 1986 for publication. Following publication, the regulations would become effective in 30 days. An early March publication date is anticipated.

FOR THE BUREAU OF RECLAMATION

Crooked Water Project, Oregon

Question: The 1986 budget included $100,000 to begin preconstruction work on relining a portion of the main canal of the Crooked River Project in Oregon. How have these funds been used?

Answer: The $100,000 in the fiscal year 1986 was underfinanced. The District has concerns over the estimated cost of the work and repayment capability and requested that the Bureau consider other options. Therefore the preconstruction work has been deferred.

Question: Why is no follow-on funding requested for fiscal year 1987?

Answer: Since the District choose not to pursue the program at this time there is no requirement for follow-on funding in fiscal year 1987.

Question: What is your funding capability for fiscal year 1987 and how would these funds be used?

Answer: We are continuing discussions with the District on cost of the work and the Districts repayment capability, therefore we do not have any fund requirement for fiscal year 1987.

Umatilla Basin Project, Oregon

Question: Update the Committee on the current status of the Umatilla River Basin Study, including any activities the Bureau of Reclamation will undertake during the remainder of 1986.

Answer: The planning report/draft environmental statement (PR/DES) will be completed, filed with the Environmental Protection Agency (EPA), released for the 90-day public and agency review, and environmental hearings held. Concurrent with those activities will be additional field data collection preparatory to initiation of advance planning work in fiscal year 1987.

Question: With the shift of emphasis from the study phase to advance planning, does this complete the evaluation of water resource needs in the Umatilla Basin? Are there other needs in the Basin which should be addressed? Could some funding be used productively in 1987 to continue basin-wide investigations?

Answer: The shift from the study phase (plan formulation) to advance planning does not complete the evaluation of water resource needs in the Umatilla Basin. During the plan formulation phase a preferred plan was identified that would help restore the Umatilla River anadromous fishery and assure a continuing supply of water for those basin irrigators who obtain their water supply by diversions from the Umatilla River. However, there are other water resource needs in the basin. The basin's ground-water resources are declining at a critical rate and the Indians are extremely interested in pursuing the development and management of the Umatilla Reservation water resources. Additional study would be necessary to address the ground-water declines and reservation water resource development. Plan formulation funding has not been requested for fiscal year 1987. Additional funding would permit the continuation of work to address the basin-wide problems. This would facilitate the ability of Reclamation to readily address the matter of conjunctive use of ground and surface water resources currently under review by the Umatilla Basin Ground Water Task Force appointed by Governor Atiyeh in 1985.

Question: How will the $134,000 included in the 1987 budget be utilized and when is advanced planning scheduled for completion? Has there been any change in the proposed plan since the budget was formulated?

Answer: The $134,000 for advanced planning in fiscal year 1987 will be used to confirm the engineering, economic, and environmental aspects of the proposed plan and for more detailed engineering and geological work related to upstream fish passage and screens and the major Columbia River pumping plant facility. Advanced planning is presently scheduled for completion in fiscal year 1988. There has been no change in the proposed plan; however, it could be developed in phases.

Question: A major feature of this project is a water exchange between the Columbia River and the Umatilla River. Can you explain this proposal in more detail?

Answer: The preferred plan includes a major pumping complex on the Columbia River, smaller pumping facilities near the mouth of the Umatilla River, and fish passage and screen improvements at several irrigation diversions. The pumping plants would supply irrigators with some of their water so that flows now diverted from the Umatilla River could remain in the river to enhance conditions for salmon and steelhead migration, spawning and rearing. Irrigators would receive a water supply at least equal to their present supplies. The smaller pumping facilities would cost about $4.2 million to construct. The Columbia River pumping plant and related facilities, and fish passage and screen improvements would cost about $35 million to construct. Annual operation, maintenance, replacement, and power wheeling costs are estimated at about $417,000. The flow and fishway improvements would result in an increased spawning escapement of fall chinook, spring chinook, and steelhead. Sport, commercial, and Indian fisheries would all substantially benefit.

Question: What has been the reaction of this proposal from various Oregon and Washington State agencies? Does the environmental community support this approach?

Answer: Reclamation's plan is part of a comprehensive basin-wide program to restore the Umatilla River anadromous fishery. Approximately $15 million of Umatilla basin fish passage and production facilities have been approved for funding in the Northwest Power Planning Council's fish and wildlife program. In addition, other local contributions have been made, including substantial investments by the Oregon Department of Fish and Wildlife. To date, approximately $1.7 million of non-Federal funds have been expended and additional projects with a total cost of approximately $5-6 million are in the final design stages. In December 1985, the State of Oregon adopted minimum streamflows for the Umatilla River; these are consistent with the flow recommendations incorporated in Reclamation's project.

The plan has strong support from the Confederated Tribes of the Umatilla Indian Reservation, other tribes, the basin residents, the State of Oregon, and the environmental community.

Question: When do you anticipate having a planning report available on which Congress could base a project authorization?

Answer: The PR/DES will be completed, filed with the EPA, released for public and agency review, and environmental hearings conducted this spring. The planning report/final environmental statement (PR/FES) is expected to be filed with the EPA about October 1986. Based on that schedule and completing all other required clearances, we estimate a report for project authorization would be available in late fiscal year 1987.

Yakima River Basin Fish Enhancement

Question: Explain the need for fish enhancement improvements in the Yakima River Basin.

Answer: It is estimated that the Yakima River system once supported over 100,000 migrating adult salmon. The number of upstream migrants has been greatly depleted in this basin until a low was reached in the early 1980's when less than 1500 adult salmon migrated up the Yakima River and only 443 spawning redds were counted. The Northwest Power Planning Council (NPPC) recognized in its Fish and Wildlife Program the potential for improving these depleted fish runs by stating:

> "Despite the major problems that must be overcome, the Yakima River Basin is considered by most fishery experts to be one of the areas in the Columbia River Basin with the greatest potential for the production of anadromous fish."

Question: How are efforts of the Bureau of Reclamation, BPA, and other Federal fish agencies coordinated to insure only the essential enhancement features are pursued?

Answer: Section 900 of the NPPC Fish and Wildlife Program report outlines the problem of outdated fish passage facilities in the Yakima River basin and identifies facilities where passage improvements are needed. Early in this program, a Technical Work Group (TWG) was formed. This interagency committee consists of representatives from Reclamation, Bonneville Power Administration, NPPC, Washington Department of Fisheries, National Marine Fisheries Service, Fish and Wildlife Service, Bureau of Indian Affairs, Yakima Indian Nation, and other special interest groups. TWG has provided the technical and biological criteria for this program. This committee, which meets on a monthly basis, has critically evaluated the proposed improvements to those facilities in accordance with Section 900 of the program. When facilities have been found to have lower priority or have lesser potential to improve the overall fish runs, construction of those facilities has been deferred, such as the Satus Creek Diversion fish screen and the Toppenish Creek Diversion fish ladder. Information on all fishery improvement and research efforts in the basin pass through TWG, resulting in no duplication of efforts by different agencies. In addition, there is coordination through a System Operating Advisory Committee which covers the river operations aspects of fishery needs and includes the local field biologists of the State, Fish and Wildlife Service, and Yakima Indian Nation.

Groundwater Recharge Demonstration Program

Question: How is the $500,000 the Congress provided for the Groundwater Recharge Demonstration program being used?

Answer: The $500,000 the Congress provided for the Groundwater Recharge Demonstration Program is being used to fund activities during the 24-month Phase I period.

A workshop was conducted in October 1985, to introduce State representatives and staff from Reclamation (USBR), Geological Survey (USGS), and Environmental Protection Agency (EPA) to the concepts and strategies of the program.

A Notice of Initiation for the program indicating a December 2, 1985, start-up for Phase I was transmitted by the Commissioner to Reclamation's Regional Directors. That information has been supplemented by the Regional Directors and transmitted to the Governors of the 17 Western States and other interested parties.

A memorandum-of-understanding to transfer funds to USGS, for its participation in Phase I, was finalized on February 6, 1986. Those funds will be decreased by 4.3 percent in accordance with efforts to comply with the Gramm-Rudman-Hollings Act.

A six-person interagency committee (USBR, USGS, EPA) has met to develop and provide policy guidance in areas of mutual concern among the three agencies. That group will meet, as necessary, throughout the course of the Groundwater Recharge Demonstration Program.

States and other non-Federal entities will prepare site nomination proposals to be submitted to USBR by the Governors of each of the 17 Reclamation States.

A letter report on the status of program activities, as required by the law, will be prepared at the 6-month mark and transmitted to Congress.

Site nomination proposals will be evaluated by USBR and USGS, with assistance, as appropriate, from EPA. A report from the Secretary of the Interior will present to the Congress recommendations for construction during Phase II. That Secretarial report will be transmitted at the end of the 24-month Phase I planning period.

Question: Will the $500,000, which is the full amount authorized, be sufficient to complete all planning, development, and site identification work necessary under Phase I? Can adequate data be developed within the Phase I authorization which will support, from an engineering point of view, Reclamation's site selection recommendation?

Answer: It is important to remember that the purpose of the Groundwater Recharge Demonstration Program is to study the potential for groundwater recharge. The report of the Secretary of the Interior to Congress at the end of the 24-month Phase I period will include "a detailed plan of demonstration projects the purpose of which is to determine whether various recharge technologies may be applied to diverse geologic and hydrologic conditions..." (P.L. 98-434, Sec. 3(a)). The projects recommended for construction during Phase II should represent a variety of technologies to be applied under a wide range of conditions; the data to be gathered during the Phase II construction and operation of projects will add to the body of knowledge being developed about all aspects of groundwater, particularly aquifer recharge.

During Phase I of the Groundwater Recharge Demonstration Program, the Federal Government will work closely with the 17 Reclamation States and other non-Federal participating partners to make efficient use of all available data in the development of recharge proposals. At this time we estimate the $500,000 authorized for the Phase I work is adequate to perform all evaluations on the site nomination proposals and make appropriate recommendations.

Working Capital Fund

Question: Describe in layman's terms the need for and how the Working Capital Fund will function. What benefits will be derived from the WCF?

Answer: The Working Capital Fund is needed for two purposes. One is to improve the method of financing of centralized functions performed in behalf of all projects in the regional offices and the Engineering and Research Center. Secondly, the WCF provides a more equitable mechanism for financing capital equipment and improvements.

In prior years, purchases of equipment intended for the benefit of several projects were financed by combining funds from the various beneficiaries' annual allotments. However, this method required only those projects receiving appropriations during the year of purchase to help pay for it. Over the useful life of the equipment, new projects would use the equipment without having to contribute for the purchase price. Under the WCF, the fund itself purchases the equipment and is reimbursed over the useful life of the asset by charges to those projects that use it.

Question: Why is an appropriation of $6.4 million being requested for the Working Capital Fund?

Answer: In ~~the~~ early years of operation of the WCF, acquisition of new assets or replacement of obsolete ones may require appropriations because depreciation charges were not accumulated on existing assets in the past. The $6.4 million requested in the President's Fiscal Year 1987 Budget would continue acquisition of a computer aided design and drafting system to be used Bureauwide, bringing state-of-the-art technology to the engineering and design functions. Funding for this acquisition was included under the General Administrative Expenses account prior to authorization of the WCF.

Question: Why are obligations from the Fund rising from $23 million to almost $60 million?

Answer: During fiscal year 1986, work is underway to finalize and implement WCF operational procedures for the Bureau's computer center activities, drilling equipment fleet management, and aircraft services. As we gain experience with utilization of the WCF, we anticipate that more multiproject equipment, engineering services, and centralized administrative activities will be brought under the fund in fiscal year 1987. Total WCF obligations will thus increase significantly, and the $60 million estimate for FY 1987 reflects our intention to take advantage of improved financial management of regional office activities under the WCF.

Question: What major new purchases are planned through the Fund in 1987?

Answer: No new purchases are planned in FY 1987. Acquisition of the Computer Aided Design and Drafting System (CADDS) was initiated in FY 1986 with $2.0 million of General Administrative Expenses (GAE) funds. With the authorization of the WCF, requests for future GAE funding for CADDS were deleted in anticipation of continued funding under the WCF. Bureau program estimates assume CADDS implementation in FY 1987 and include $7.3 million annual savings due to productivity increases directly attributable to CADDS.

Question: What ability does Congress have to review and control operations carried out through the Fund?

Answer: The President's budget will contain itemized schedules for the Working Capital Fund (WCF). Activities carried out under the fund will be detailed in the Budget Justifications. In the past, these activities were funded under the various appropriations without identification or reference in the budget documents. This new exposition will provide Congress the opportunity to review and comment on WCF activities.

Question: Will legislative language be proposed for major new acquisitions or replacement items?

Answer: Yes, we believe that appropriations may be required, at least in the initial years. When replacement of equipment transferred to the WCF is required, the available reserve will include only the amount of book value depreciated since the date of transfer into the WCF. Since depreciation charges were not accumulated on existing assets prior to implementation of the WCF, the reserve may not provide sufficient replacement funding in the initial years. To the extent that total available reserves are inadequate to finance planned replacements, appropriations may be requested. However, this will not require an increase to the level of the Bureauwide program since requests for funding for replacement of equipment has historically been made under a regular Bureau appropriation prior to operation of the WCF. The same holds true for funding of new major acquisitions.

Question: Should there be a limit on total obligations from the Fund? Provide for the record a projection of obligations, revenues, and appropriations expected over the next 5 years. Also discuss any major new acquisitions or replacement items expected during that period.

Answer: It would be difficult to limit total obligations from the WCF inasmuch as it includes services to other agencies, such as providing automated payroll support to all Interior bureaus and offices. There are no real fiscal control advantages to obligation ceilings on working capital funds since the budget authority associated with WCF activities is provided under other accounts. The single exception would exist in the case of appropriations made directly to the WCF for acquisition of new or replacement capital items. As we gain additional experience in WCF utilization, we look forward to addressing specific fiscal concerns raised by Congress in operation of the WCF.

A table of projected obligations, revenues and appropriations over the next 5 years is supplied for the record. We note that these are best estimates at this time and do not represent a commitment by the Administration to seek these funding levels.

Working Capital Fund

PROJECTION OF OBLIGATIONS, REVENUES AND APPROPRIATIONS, FY 1987 - 1991

(in thousands of dollars)

	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991
Obligations	$59,623	$65,000	$60,000	$60,000	$60,000
Revenues	53,223	50,000	50,000	50,000	50,000
Appropriations	6,400	15,000	10,000	10,000	10,000

At the time of authorization of the WCF, the Bureau had an inventory of equipment on hand with a replacement value of approximately $90 million. Since depreciation charges were not accumulated on these assets prior to implementation of the WCF, an unfunded liability for replacement costs exists. Had depreciation charges been accumulated, the reserve would approximate the amount required for replacement. We estimate that annual appropriations of $10 million will be required during the first seven years of WCF operation to compensate for this. This will not require an increase to the level of the Bureauwide budget since the requests would have been made under regular appropriations.

The only firm plans for new major acquisitions expected to be made during this five year period are the Computer Aided Design and Drafting System (CADDS) and replacement of the central computer facilities. Funding for CADDS is included in the FY 1986 appropriation and the FY 1987 request, additional funds will be required in FY 1988. All funding for replacement of the central computer facilities, including site preparation, is available from other accounts.

Loan Program

Question: What is the current status of legislation to increase the appropriation ceiling on the Loan Program to $1.2 billion.

Answer: Bills are pending in both Houses of the Congress. Hearings were held in both Houses in July 1985. The Senate Energy and Natural Resources Committee has held several markup sessions and the Chairman has indicated that the Committee will take its final action on the bill on March 6, 1986. The President's budget includes, and the Department has prepared draft legislation to require the repayment of all new loan amounts at current Treasury borrowing costs plus one-eighth of 1 percent; and to increase the existing appropriation ceiling.

Question: It appears from the detailed construction schedule sheets that total obligations to complete the current work will exceed the $600 million ceiling by over $100 million. Is this the case, and if so, what actions are being taken to insure the appropriations ceiling is not exceeded?

Answer: The total obligations of $757,005,911 shown in the control schedule on page 48 contains several Distribution Systems loans that were undertaken by authority of Public Law 84-130. These loans are not included in the appropriation ceiling of Public Law 84-984. While only three Public Law 130 loans are listed in the control schedule, several more make up a portion of the completed loans value on line 1 of the schedule. Also, the three potential new loans will not be started until legislation is enacted to include interest at Treasury borrowing costs for all project purposes, and the appropriation ceiling is increased.

Question: Is there sufficient ceiling under the current $600 million to cover all expected administrative and construction costs, including estimated price escalation, for the projects that have already been started?

Answer: Yes. The costs of completed projects, and the costs to complete those under construction in the current fiscal year, including administration, and anticipated escalation is about $580 million.

Question: Are any new projects proposed for initiation in 1987 and can those be completed under the current appropriation ceiling?

Answer: There are three projects proposed as new starts in fiscal year 1987 but work cannot be initiated until legislation to increase the appropriation ceiling is enacted. However, with an uncommitted balance of about $20 million it is possible that one of the three can be completed within the current ceiling.

Question: How will the new legislation being proposed affect the ability of local interest to participate in the Loan Program? Specifically, will the local sponsors of the new projects included in the budget request of 1987, in your judgement, still be able to meet the financial requirements?

Answer: We are in the process of determining what effect changing the interest rate for loans under the Small Reclamation Projects Act will have on the ability of local interests to participate in the program. We do not know the specific effect on the three new loan projects since the applications are based on interest-free irrigation repayment.

Spring Creek Toxicity Control Project

Question: Briefly explain the nature and extent of the problem surrounding the Spring Creek Toxicity Control Project. Where is this project located in your budget request?

Answer: Acid and heavy metal pollution of the upper Sacramento River originates primarily in the Spring Creek Basin as a result of historic mining activities. Remedial action alternatives for resolving this problem are being identified by the Bureau and the Environmental Protection Agency. The remedial alternatives consist of a combination of source control, treatment, and water management alternatives. The Fiscal Year 1987 budget request contains $20,000 under preconstruction activities in the Construction Appropriation for the Bureau to begin collecting design data and to initiate work on an environmental impact statement on alternatives for remedial action. It is the Bureau's policy that this work should be financed through EPA's Superfund mechanism.

San Luis Unit, Kesterson Reservoir Cleanup

Question: On February 5, 1985 the California Water Control Board issued an order directing the Bureau of Reclamation to develop a plan within 3 months and complete cleanup within 3 years. What is the current status of Reclamation activities related to Kesterson Reservoir?

Answer: On February 5, 1985, the California Water Resources Control Board issued an order (85-1) directing the Bureau of Reclamation to develop a plan within 150 days and complete cleanup within 3 years. A framework plan was submitted to the California Water Resources Control Board on July 5, 1985. A draft Environmental Impact Statement is scheduled for public release on April 18, 1986, and will include the alternative plans for Kesterson Reservoir, impacts of the alternative plans, and a comparison of the alternative plans. The closure plan and post-closure maintenance plan will be submitted on December 1, 1986, to the State Water Resources Control Board. The closure and cleanup is scheduled to be accomplished by February 5, 1988.

Question: It appears that the Bureau of Reclamation is no closer to recommending a cleanup plan than it was 6 months ago. Why is it taking so long to come up with a suitable plan? How much has been spent to date studying the selenium problem at Kesterson and how much is included in the 1987 budget for Kesterson related activities?

Answer: The reason it is taking so long to come up with a suitable plan is that the Bureau of Reclamation must specifically understand the selenium contamination problem at Kesterson Reservoir before an appropriate solution can be identified. Reclamation runs the risk of creating a much larger problem or spending unnecessary cleanup monies if a solution is implemented prior to understanding the problem.

Since Reclamation has been charged with characterizing the selenium contamination problem and at the same time identifying a technically and environmentally sound solution, a program has been designed to allow maximum flexibility in responding to state-of-the-art research while aggressively working towards the solution. As of March 1, 1986, $12,286,000 had been spent on the San Joaquin Valley Drainage Program and the Kesterson Reservoir Program. We expect an additional $7,100,000 will be expended in Fiscal Year 1986 for a total estimated expenditure over FY 1985 and FY 1986 of $19,386,000. An amount of $11,500,000 is included in our Fiscal Year 1987 budget request.

The cost of actual cleanup of Kesterson Reservoir is not included in these requests. Until such time as the cleanup strategy has been through the State review and approval process, we will remain uncertain as to what to request from the Committee. We definitely will need additional authority and funds to accomplish the cleanup.

Question: What is your current time table for recommending a plan and completing the actual cleanup?

Answer: The Draft Environmental Impact Statement will be filed on April 18, 1986, and the Final on September 20, 1986, with the Environmental Protection Agency. The Record of Decision on the Environmental Impact Statement will be submitted on December 1, 1986. The Closure Plan and Post-Closure Maintenance Plan will be submitted on December 1, 1986 to the State Water Resources Control Board. Implementation of the Closure/Cleanup Plan will be accomplished by February 5, 1988, subject to the timely availability of funds.

Question: The Conference Report on the 1986 Bill included language relating to a loan to a local government agency to prepare feasibility studies for alternate solutions. Is this an appropriate direction to go? What action have you taken regarding such a loan and what is the basis of your action?

Answer: The concept recommended by the Conference Committee could provide a contribution to the overall effort to finding an economically and environmentally acceptable solution. However, care must be exercised to coordinate all activities with the Bureau to avoid unnecessary duplication of studies.

The Department of the Interior's Solicitor concluded that the Bureau of Reclamation does not have existing statutory authority to make the proposed loan. At the request of Senator Wilson, the Department of the Interior has drafted legislation which, if approved by the Congress, would authorize the Bureau to make a loan to the local government agency. The Bureau of Reclamation is prepared to make the loan to a local government agency when they have the statutory authority to do so.

Twin Falls Canal Company, Idaho

Question: Bring the Committee up to date on the need and justification of the rehabilitation and betterment work with the Twin Falls Canal Company, Twin Falls, Idaho.

Answer: The irrigation facilities of the Twin Falls Canal Company (TFCC) are now 80 years old and are fast becoming obsolete. General deterioration, canal failures, steadily increasing operation and maintenance costs, and the inability to meet peak water demands all point to the need for rehabilitating the system. The soils through which the canals were originally constructed cannot withstand the water velocities, and erosion of the canal sideslopes and floors has been a continual problem. Conversion to more intensive crops in the project area has resulted in higher peak demands for water and the canals have insufficient freeboard, which in conjunction with the eroded canal banks have resulted in canal failures.

Question: What work has been accomplished to date? What work remains to be accomplished and what is the cost? When will the R&B work be completed?

Answer: The R&B report has been reviewed and conditionally approved. No work has begun on the proposed rehabilitation program. The proposed work includes canal enlargement, raising and widening the canal banks, construction of additional checks, spill, and control structures, erosion protection or velocity controls will be provided, turnout structures will be replaced, and portions of the canal controls will be automated. The estimated cost is $87,630,000 of which $77,130,000 is proposed to be financed by an R&B loan. Rehabilitation is estimated to take four years to complete.

Question: Is any additional work warranted and if so, how much funding is required? Does the Bureau have sufficient authority to undertake this work?

Answer: The above described work is required to ensure the integrity of the TFCC irrigation system and would require $77,130,000 to accomplish. The project facilities were not federally financed or constructed and, therefore are not considered to be a Reclamation project. Consequently, TFCC, is not eligible for a loan under the R&B Act and the $77,130,000 proposed loan exceeds the present R&B loan limit of $27,400,000. Special legislation is necessary for the District to become eligible for funding under the R&B Act and to override the present loan limit policy.

Flooding Situation

Question: Bring the Committee up to date on the flooding situation in the West. How has the flooding impacted Bureau of Reclamation projects and facilities?

Answer: A two-week period from February 11 through February 25, 1986, brought heavy precipitation and above normal temperatures to the western States of California, Nevada, Utah, Idaho, Oregon, and Washington. The resultant high flows from rainfall and snowmelt runoff caused widespread flooding and mudslides. All Bureau projects were operated to reduce flooding, and those streams and rivers controlled by Bureau dams experienced generally minor or no flood damages.

In California, up to 3 feet of rain in a 10-day period caused severe flooding on many small streams. The high flows exceeded the storage capacity of the Bureau's Auburn Cofferdam, and on February 18 the cofferdam was overtopped and gradually washed out in the manner it was designed to do. All the flow from the cofferdam washout was stored in Folsom Lake downstream, which we had been operated to maintain extra space in the event the cofferdam was washed out. Folsom Dam experienced a record-high storage level, and releases of 130,000 cubic feet per second (cfs) were required to pass the flood. That flow was greater than the 115,000 cfs previous peak flow handled by the levee system along the American River in Sacramento, and only slightly less than the 14,000 cfs for which the levees were designed. The levees held and no serious flooding occurred.

Shasta Reservoir stored much of the storm runoff and filled to near capacity while preventing serious flooding along the Sacramento River. The reservoirs at Friant and New Melones Dams in the San Joaquin River Basin also were filled to near capacity in controlling flows on the San Joaquin River, but some flooding did occur along the lower reaches of the river.

In Nevada, high flows on the Truckee and Carson Rivers caused flooding in Reno and other areas. Flood control releases had to be initiated from Lake Tahoe to prevent the lake from rising to damaging levels. Mud slides occurred near the Bureau's Boca and Stampede Dams and caused minor damage to the powerplant building at Stampede.

In Utah, many streams experienced flows greater than the 1983 floods, and Newton, Pineview and Deer Creek reservoirs all filled to near capacity storing inflow to control downstream flooding. A portion of the Hyrum Project's Hyrum-Mendon Canal was overtopped and some foundation material around the siphon on the canal was washed out.

In Idaho and Oregon, the Snake River and triubutaries experienced high flows, with a record inflow of 36,000 cfs into Owyhee Reservoir. The reservoir filled, and large releases caused minor damages downstream. Minor flooding occurred along portions of the Snake River and on the Yakima River in Washington.

Drier weather and cooler temperatures are permitting rapid improvement in conditions. Snowpack at the higher elevations remains very heavy, and spring runoff is expected to be above normal in much of the West.

Impacts to Bureau facilities were generally minor, with the exception of the Auburn Cofferdam, the mudslides at Boca and Stampede Dams, and a siphon on the Hyrum Project.

Question: Do you have an estimate of how much it will cost to accomplish repairs to damaged Reclamation facilities? Will a supplemental appropriation be requested to fund the necessary repairs?

Answer: The greatest damage to Bureau facilities during the flooding occurred at the Auburn Cofferdam site. The washout of the cofferdam resulted in the loss of about half of the embankment and caused extensive damage to California State Highway 49. We are presently evaluating measures to make the remaining portion of the embankment safer, but at this time no cost estimate is available. We expect that the State will proceed with repairs on Highway 49 and will bill us for the cost of that work. The preliminary cost estimate of the highway repair is $4 million. We are not sure at this time when the State will bill us for that work, but we are evaluating our ability to pay that bill out of Auburn Project funds.

The mudslides at Boca and Stampede Dams will be cleaned up by the water users and the contractor, respectively. We have a contractor at Stampede working on the powerplant, and since the mudslide is considered an act of God, the contractor will have to seek restitution for that work from his insurance company. We are not certain if the Washoe County Water Conservation District will request an Emergency Fund loan for the cleanup work, which preliminary estimates put at $25,000 - 30,000.

The Hyrum-Mendon Canal damage will be repaired by the South Cache Water Users Association, and we expect they will request an Emergency Fund loan. Damage estimates will not be available until the canal and the area around the siphon dry out.

At this time, we do not believe that a supplemental appropriation will be necessary to fund the repair work at the above mentioned locations.

Question: If a supplemental is not requested, where will the necessary funds come from and what will be the impact on those programs and activities?

Answer: Funds for the work on the Boca mudslide and the Hyrum-Mendon Canal will likely come from the Emergency Fund. Funds for Auburn Project work will probably come from existing project funds, but a final decision has not been made, pending more exact damage estimates and ongoing evaluation of the overall situation.

PERSONNEL

Question: What is the total number of direct, full-time permanent positions for 1987 compared to 1986? And what is the level of full-time equivalents for 1987 versus 1986?

Answer: The total number of direct, full-time permanent positions for the Bureau for fiscal year 1987 is 7,959 compared to 8,261 for fiscal year 1986. The number of full-time equivalents for fiscal year 1987 is 8,032 compared to 8,144 for fiscal year 1986.

Question: The total budget request for the Bureau of Reclamation is $851.2 million. How much of this total is for salaries and expenses of your personnel, both direct and indirect?

-- Provide for the record a table showing each appropriation account, a breakout of both direct and indirect expenses, and a short explanation of what makes up the direct or indirect category.

Answer: The amount of salaries and expenses is shown on the following table:

(The information follows:)

Fiscal Year 1987
(in thousands of dollars)

	Salaries	Benefits	Total	Appropriation Request
General Investigations	14,044	1,693	15,737	27,820
Construction Program	60,944	13,733	74,677	576,759
Operation and Maintenance	64,878	9,334	74,212	150,000
Loan Program	794	95	889	38,021
Emergency Fund	- - -	- - -	- - -	1,000
General Administrative Expenses	26,543	4,035	30,578	51,200
Working Capital Fund	- - -	- - -	- - -	6,400
Total	$167,203	$28,890	$196,093	$851,200

Salaries are the amount of gross compensation for personal services rendered to the Bureau by Federal civilian employees.

Benefits are cash allowances paid directly to Federal civilian employees and payments to other funds (such as Civil Service Retirement, Employees Health Benefits) for the benefit of these employees.

Oil Price Decline

Question: What impact will the decline in oil prices have on construction activities in 1987? What level of savings can be expected?

Answer: We expect to experience some savings on Reclamation projects as a result of oil price declines but do not have sufficient information to develop projections. For ongoing fixed-price contracts, there would not be any savings accrual. But on newly bid contracts, we would expect the oil price decline to be reflected in the bid price. However, impacts on Reclamation project work would vary depending upon how equipment intensive the work would be. For instance, we would expect a more significant impact on construction of dam and canal embankment than on construction of powerplants or purchase of equipment.

Budget Authority and Outlays

Question: The Committee is trying to get a better handle on the outlays which can be expected on an annual basis.

Could you prepare a table for the record which shows actual outlays by account for the last 10 years of record? The table should also include new budget authority provided each year and outlays resulting from the NBA, and the amount and outlays resulting from prior year authority.

Answer: A table showing the requested data is provided for the record.

DEPARTMENT OF INTERIOR

BUREAU OF RECLAMATION

February 28,1986

Source: Budget Appendixes

Ten Year History of Budget Authority, Outlays from New and Prior Authority, and Carryover: 1977 to 1986.
(in thousands of dollars)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986 1/ (est)
Total Construction: 2/										
BA	493,890	326,813	399,156	437,137	576,115	548,505	637,909	695,318	754,300	499,267
BO	405,119	422,797	441,085	547,400	552,331	561,273	579,788	600,801	654,235	689,300
Carryover 4/	162,698	244,361	335,527	283,490	166,981	181,082	166,836	207,205	296,329	401,029
BO from prior BA	59,396	54,028	161,676	241,404	149,051	177,319	133,788	113,301	126,225	339,813
BO from new BA	345,723	368,769	279,409	305,996	403,281	383,954	446,000	487,500	528,010	349,487
Loan Program: 5/										
BA	27,495	27,753	36,366	14,116	22,924	22,614	55,106	45,000	67,537	37,624
BO	24,759	20,823	21,915	30,349	26,400	29,458	31,386	45,479	59,531	48,986
Carryover 4/	20,404	23,140	30,070	44,521	23,006	19,529	36,217	36,405	35,926	43,932
BO from prior BA	8,262	4,171	95	21,879	12,646	15,890	12,080	18,479	19,009	26,412
BO from new BA	16,497	16,652	21,820	8,470	13,754	13,568	19,306	27,000	40,522	22,574
General Investigations: 6/										
BA	24,762	25,106	30,870	33,951	40,029	41,173	38,871	34,057	35,566	32,571
BO	23,647	25,593	27,633	32,298	40,610	55,993	41,413	35,063	33,504	34,916
Carryover 4/	6,750	7,865	7,377	10,614	12,267	34,072	18,635	14,905	13,698	10,850
BO from prior BA	6,750	7,865	7,377	10,614	12,267	34,072	18,635	14,905	13,698	10,850
BO from new BA	16,897	17,728	20,256	21,684	28,343	21,921	22,778	20,158	19,806	24,066
General Admin. Expenses: 6/										
BA	22,720	24,845	27,910	28,600	40,500	39,928	40,727	53,750	58,917	47,084
BO	22,559	24,913	25,970	29,559	38,839	39,767	40,140	44,455	48,937	63,094
Carryover 4/	22	150	67	1,774	790	2,424	2,142	2,025	11,178	20,669
BO from prior BA	22	150	67	1,774	790	2,424	2,142	2,025	11,178	20,669
BO from new BA	22,537	24,763	25,903	27,785	38,049	37,343	37,998	42,430	37,759	42,425
Operation & Maintenance: 6/										
BA	68,830	81,331	88,718	101,353	106,317	118,518	142,524	134,291	149,689	126,960
BO	67,648	79,266	80,981	104,664	106,375	113,350	136,114	134,723	141,291	133,389
Carryover 4/	19,628	17,694	18,366	24,482	20,004	20,047	27,215	34,215	33,830	41,930
BO from prior BA	19,628	17,694	18,366	24,482	20,004	20,047	27,215	34,215	33,830	41,930
BO from new BA	48,020	61,572	62,615	80,182	86,371	93,303	108,899	100,508	107,461	91,459
Emergency: 6/										
BA	30,800	—	—	—	—	7,000 3/	1,919	1,000	1,000	957
BO	9,386	14,862	3,150	1,080	829	8,066	1,372	3,089	2,091	974
Carryover 4/	1,385	22,999	10,955	6,402	5,024	4,160	3,077	3,624	1,486	395
BO from prior BA	1,385	14,862	3,150	1,080	829	4,160	1,372	3,089	1,486	395
BO from new BA	8,030	—	—	—	—	3,906	—	—	605	579
Total:										
BA	668,497	685,848	583,020	615,157	785,885	777,738	917,056	963,416	1,067,009	744,463
BO	553,118	588,254	600,734	745,350	765,384	807,907	830,213	863,610	939,589	970,659
Carryover 4/	210,885	316,209	402,362	371,283	228,072	261,314	254,122	298,379	392,447	518,805
BO from prior BA	95,443	98,770	190,731	301,234	195,586	253,912	195,232	186,014	205,426	440,069
BO from new BA	457,704	489,484	410,003	444,117	569,798	553,995	634,981	677,596	734,163	530,590

1/ 1986 estimates include reductions pursuant to P.L. 99-177.
2/ Construction figures include Basin funds, but not Teton balance. Generally assumes 70% of new BA outlayed during the current year.
3/ 1982 Emergency BA transfered from Construction BA Teton Program.
4/ Carryover includes obligated balance SOY and unobligated balance SOY.
5/ Generally assumes 60% of new BA outlayed during the current year.
6/ Assumes all carryover balances outlayed before new BA.

Application of Savings and Slippage

Question: Has the Bureau of Reclamation been instructed, formally or informally, to assign an amount of savings or slippage against the 1986 program in excess of the amounts shown in the Conference Report for 1986? If so, provide the source and nature of the instructions, the authority which allows such action, and the impact by project.

Answer: No, we receive no instructions as to how to assign an amount of savings or slippage against the 1986 program in excess of the amounts shown in the Conference Report for 1986.

Reallocation of Seedskadee Project Costs

Question: The Administrative Provisions request language to authorize the reallocation of project costs for the Seedskadee Project to reflect revised benefits. Why is that language needed?

Answer: We have decided to withdraw the Seedskadee Project cost allocation language. At the time of preparation of the FY 1987 budget documents, we intended to recommend the distribution of the Fontenelle Dam modification cost in accordance with a new cost allocation of the project construction costs. The new allocation would recognize the addition of a powerplant and power benefits to the original project design.

We have experienced delays in preparation of the modification report for Fontenelle Dam. All alternatives for corrective action have not yet been fully analyzed and final selection may affect the cost allocation or potentially the project authorization. Consideration of the cost allocation problem is therefore premature at this time.

TECHNICAL ASSISTANCE TO STATES

Question: Provide for the record a table which shows the amount requested for technical assistance by State, and a short description of how the funds will be used.

Answer: The Technical Assistance to States program for the Bureau of Reclamation contains $1,449,250 in fiscal year 1986 and $1,565,000 in fiscal year 1987. The funds are programmed to provide assistance to the 17 Western States in addressing, evaluating, and implementing water and land resource measures. This would be through non-structural measures which improve the utilization of existing supplies or reallocate existing supplies among complementing and competing needs, or through structural measures involving rehabilitation of existing facilities or developing new storage and groundwater supplies. Funds will also be used to provide advance informational data on studies which have been started by the States in anticipation of partial Federal input. A table showing a breakdown of funds to cover technical assistance for each State is provided for the record.

TECHNICAL ASSISTANCE TO STATES

Breakdown by States

State	FY 1986	FY 1987
Arizona	$ 20,000	$ 20,000
California	175,000	125,000
Colorado	275,000	272,500
Idaho	155,000	185,000
Kansas	120,000	123,000
Montana	38,100	37,500
Nebraska	75,000	73,500
Nevada	25,000	60,000
New Mexico	85,125	122,000
North Dakota	36,900	37,500
Oklahoma	78,125	115,000
Oregon	60,000	85,000
South Dakota	36,900	37,500
Texas	15,000	10,000
Utah	103,000	103,000
Washington	50,000	60,000
Wyoming	101,100	98,500
TOTAL	$1,449,250	$1,565,000

Projects Requiring Increased Appropriation Ceilings

Question: Provide for the record an update of those projects included in the 1987 budget that will require an increase in the Appropriations ceiling, when the additional ceiling will be required, the status of legislation to increase the ceiling, and any potential impact there might be on the use of funds requested in the 1987 budget.

Answer: We have developed a table which lists those projects requiring an increase in the Appropriation ceiling.

PROJECTS REQUIRING INCREASED APPROPRIATION CEILINGS

Fiscal Year 1987
BUDGET JUSTIFICATIONS
(Dollars in Thousands)

Project	Appropriation Ceiling	Total Estimated Cost	When Legislation Required	Status of Legislation	Potential Impact on FY 1987 Budget
CONSTRUCTION PROGRAM					
Central Valley Project:					
Auburn-Folsom South Unit	$1,404,205	$2,093,948	Project on hold pending study		No Impact
San Luis Unit (Distribution System and Drains)	242,001	978,961	FY 1987	Being prepared	Legislation needed to continue the San Joaquin Valley drainage program and the cleanup of Kesterson Reservoir.
Trinity River Restoration 1/	42,440	42,000	Project reevaluated.		No Impact
Chief Joseph Dam Project. Oroville-Tonasket Unit	70,855	78,000	FY 1988	Being prepared	No Impact
Colorado River Basin Salinity Control, Title II	290,214	457,020	FY 1992	To be prepared	No Impact
Pick-Sloan Missouri Basin Program:					
Garrison Diversion Unit	1,058,133	1,402,193	Project being shut down.		No Impact
North Loup Division	205,520	350,910	FY 1986	Introduced 1985	No Impact
O'Neill Unit -- Work ceased pending project redesign. New ceiling to be established.					
Colorado River Storage Project	2,188,060	2,839,304	FY 1991	To be prepared	No Impact
Washoe Project	190,624	356,455	Beyond FY 1992	To be prepared	No Impact

1/ Site of Grass Valley Debris Dam was changed with estimated cost within the current appropriation ceiling.

CENTRAL VALLEY PROJECT, SAN LUIS UNIT, CALIFORNIA

Question: Has the lack of an increase in the appropriation ceiling required you to defer any work on the San Luis Unit?

Answer: We are accomplishing work on the San Joaquin Valley Drainage Program within the limits of annual appropriation. This work involves data collection, preparation of environmental documents, and planning for the timely closure and cleanup of Kesterson Reservoir. However, the Bureau's capability on this activity exceeds the amount included in the annual appropriation. Work which might otherwise be performed and financed with funds available through reprogramming is not being accomplished because of the limitation of the appropriation ceiling.

Question: What is the best way to clean up existing contamination and how much will it cost?

Answer: The Bureau of Reclamation is still reviewing and analyzing a range of alternatives for the cleanup of Kesterson and the final disposition of the reservoir site. A final plan (to be selected from four alternatives) and an EIS are scheduled for completion in September 1986. The preferred cleanup plan will be submitted to the State Water Resources Control Board on December 1, 1986 for review and approval prior to implementation.

Based on very preliminary estimates, the costs for implementation of the Kesterson cleanup, excluding ongoing study costs range from approximately $3 million to $195 million; more accurate cost estimates for each alternative will depend on the volume and character of the waste, as determined from ongoing sampling and data collection activities; whether an offsite disposal area is required, and a number of other factors.

Question: What interim measures have been taken to reduce the toxic contaminant hazard to waterfowl, pending the start of the Kesterson cleanup program?

Answer: The Bureau has evaluated and implemented measures to reduce waterfowl impacts at Kesterson Reservoir and vicinity. The Fish and Wildlife Service has continued to assess the extent and nature of the contaminant hazard during 1985. The Service has expanded its study area to include private lands within the Grasslands area, specifically the Grassland Water District. The Service also has plans to continue hazing waterfowl away from Kesterson Reservoir with Bureau funding. The Bureau has made water available for the improvement of existing habitat near Kesterson Reservoir to attract birds hazed from the Reservoir.

Central Valley Project Coordinated Operations Agreements, California

Question: What steps are underway to lift the moratorium and market available water?

Answer: We anticipate that the moratorium will be lifted upon ratification of the Coordinated Operations Agreement (COA) between the Department of the Interior and the State of California. The House of Representatives recently passed HR 3113 which directs the Secretary to execute the COA. However, other language in the bill broadens the existing requirement that the Federal government meet State water quality standards. Should that language be enacted without corresponding congressional authorization of Federal participation in construction of facilities in Suisun Marsh, it will complicate the marketing of the water available for contracting. Without new facilities, surplus water would be needed to prevent flows from San Francisco Bay from significantly increasing salinity in brackish areas. In the meantime, the Bureau has begun environmental statements on the marketing of additional water so that contracting can proceed expeditiously once the moratorium is lifted.

Reclamation Reform Act Of 1982

Question: What were the results of your efforts to enforce the Reclamation Reform Act during fiscal year 1985?

Answer: At every opportunity, we have offered our assistance to the districts in everything from training staff, to working with forms, to providing guidance to their landholders.

Some districts believe the effect of the law is to unilaterally and unlawfully change their contracts. Some are highly critical of the added workload and expense placed on them in the administration of the Act. They are frustrated with the complexity of the rules in light of the number of interpretations and opinions already issued in an attempt to clarify them. Also, some landowners have decided that they would not comply with land ownership reporting requirements. In cases where districts deliver irrigation water to ineligible lands the matter is referred to the Solicitor's Office. One district has been taken to court in order to enforce the provisions of the Act.

Despite the difficulties we've encountered in implementing the Reclamation Reform Act (RRA) significant progress has been made, particularly in the Mid-Pacific Region, where RRA has had the greatest impact. Actions involving implementation of RRA in the Mid-Pacific region include:

° A total of 300 elections have been initiated since the RRA was implemented as of January 15, 1986. Of the 300 processed, 145 of the elections were in fiscal year 1985.

° During fiscal year 1985, 20 Small Reclamation Project Act (SRPA) contracts were amended to comply with the RRA. Since the law was passed we have had one new SRPA contract executed.

° We have had 39 temporary contracts executed this year under the provisions of the RRA. Water that cannot be stored can be delivered to ineligible flood flow.

° Since the law was passed there have been four new long-term contracts executed under the provisions of the RRA. There were no new contracts in this past year.

CRSP - NAVAJO UNIT

SAFETY OF DAMS PROGRAM

Question: An appropriation of $3.5 million was provided in Reclamation's FY 1986 budget under the Safety of Dams - Constuction Program. Your request for FY 1987 shows $6.1 million for this work under the CRSP O&M program, with the FY 1986 amount transferred to other construction work. Can you please explain this?

Answer: The Navajo Dam modification, needed because of seepage problems, was included as a new start in the FY 1986 Safety of Dams (SOD) Program with construction scheduled to begin in April 1986. A preliminary determination has been made that the corrective action was not authorized by the Reclamation Safety of Dams Act since it did not arise from a change in state-of-the-art criteria and thus, Navajo could not be funded by the SOD program.

This determination is under review, however, based on recent analysis which shows that Navajo was constructed utilizing methods and procedures which were considered acceptable technology in the late 1950's and that the seepage problems which have developed at Navajo could have been prevented if the dam were built by today's standards. Thus, the Administration is now reconsidering the position reflected in the 1987 Budget. The proposed modification, estimated to cost $12.3 million, consists of constructing a concrete diaphram wall in the left abutment and a drainage tunnel in the right abutment.

Non-Federal Financing

Question: In fiscal year 1987 how many studies will be cost shared and what type of cost sharing is involved?

Answer: In fiscal year 1987 there are 18 ongoing plan formulation studies, 4 new starts, 1 ongoing advance planning study and 2 new starts that will be cost shared with non-Federal entities. A total of $1,679,000 cash advances is provided in eleven of the studies. The remaining studies include in-kind services valued at $5,033,000. The total non-Federal cost sharing for fiscal year 1987 is $6,712,000.

Rathdrum Sump, Rathdrum Prairie Project, East Greenacres Unit, Idaho

Question: Last year this committee directed the Bureau to use up to $50,000 of available funds to perform an appraisal study to solve the problem of the Rathdrum sump. What has been accomplished?

Answer: The city of Rathdrum has requested the Soil Conservation Service (SCS) to take the lead in solving the problem with the sump which dissipates flows from Rathdrum Creek into the substrata. We are working with the SCS to determine the corrective action necessary to improve the performance of the sump.

Non-Federal Financing

Question: In fiscal year 1987 how many studies will be cost shared and what type of cost sharing is involved?

Answer: In fiscal year 1987 there are 18 ongoing plan formulation studies, 4 new starts, 1 ongoing advance planning study and 2 new starts that will be cost shared with non-Federal entities. A total of $1,679,000 cash advances is provided in eleven of the studies. The remaining studies include of in-kind services valued at $5,033,000. The total non-Federal cost sharing for fiscal year 1987 is $6,712,000.

Cost Sharing For New Investigations

Question: What cost sharing criteria are you using for your proposed new plan formulation investigations?

Answer: The Bureau of Reclamation will pursue a goal of 50 percent non-Federal cost sharing for each new plan formulation investigation. Proposed new starts that do not meet the 50 percent criterion must have a written justification approved by the Secretary. In-kind services qualify as cost sharing if the services received serve to reduce the Federal cost of the study.

Question: You state that you have $1,679,000 of non-Federal cash advances in the fiscal year 1987 general investigation program. Would you provide us with a breakdown of this money.

Answer: The $1,679,000 cash advance is broken down as follows:

Deep-Carbonate Aquifer	$750,000
High Mountain Aquifer	135,000
Imperial Irrigation District	40,000
Kansas River Basin Water Management Study	90,000
Mesa-Delta M&I Groundwater	35,000
Prairie Bend Unit	10,000
San Bernardino Valley Groundwater	100,000
Seminoe Dam Modification	70,000
Spring Canyon Pumped Storage	270,000
Umatilla Basin Project (Advance Planning)	79,000
Yakima River Basin Water Enhancement (Advance Planning)	100,000

PICK-SLOAN MISSOURI BASIN PROGRAM, GARRISION DIVERSION UNIT, NORTH DAKOTA

Question: What work has been undertaken pursuant to the Garrison Diverision Unit Commission recommendations?

Answer: Construction has resumed on those features of the authorized plan common to the Commission's recommendations. Basically this involves construction on the Oakes Irrigation Test Area and the New Rockford Canal. Contracts for this work were awarded prior to September 30, 1985. In addition, about 3,660 acres of land were acquired for fish and wildlife mitigation and enhancement purposes in fiscal year 1985. Preconstruction work has been initiated on the Sykeston Canal and Glover Reservoir and additional irrigation facilities in the irrigation areas recommended by the Commission.

A draft supplemental environmental impact statement has been prepared for filing with EPA.

Pursuant to restrictive language in the fiscal year 1986 Energy and Water Development Act, new construction contracts will not be awarded nor additional lands acquired until legislation reformulating the unit is enacted.

Question: On Page 82 of Senate Report No. 99-110, which discusses the fiscal year 1986 Energy and Water Development Appropriation, the Committee discussed problems associated with increased ground water levels around Lake Audubon, near the Garrison Diversion Unit. What action has the Bureau of Reclamation taken to determine the cause of the increased ground-water levels and to work with Federal, state, and local officials to resolve problems?

Answer: In June 1985, the Bureau of Reclamation and Corps of Engineers established procedures for dealing with high ground-water problems around Audubon Lake. An administrative boundary, dividing responsibility between the Corps and the Bureau, was delineated on the east side of Audubon Lake so that local water resource districts can contact a single agency to discuss and resolve high ground-water problems that occur.

The Bureau is working closely with the Fish and Wildlife Service on the operation of Audubon Lake and any related high ground-water problems in or around the Lake Nettie National Wildlife Refuge.

The Bureau is presently working with McLean County officials to resolve a county/township road intersection problem at McLean County Slough No. 1, east of Audubon Lake. Preliminary data from the State Water Commission study will be available in the near future. It is anticipated that this information will be used to determine how Audubon Lake is influencing water levels in the slough. A mutually agreeable solution to the road problem in that area is expected by mid-1986.

In 1984, the North Dakota State Water Commission began a detailed 3-year study of the aquifer system (Lake Nettie Aquifer) east of Audubon Lake. This study, which will be completed in 1987, is funded by the State of North Dakota, the Bureau of Reclamation, U.S. Fish and Wildlife Service, and McLean County. Approximately $16,000 of Federal funds will be used for the study. The study should provide data needed to determine the extent of Federal responsibilities for high ground-water problems in that area.

Question: The Garrison Diversion Unit Commission recommended that Lonetree Dam and related facilities not be completed at this time. However, I note from documents supporting the fiscal year 1987 budget request that $3.1 million is budgeted for this work in fiscal year 1986 and $300,000 in fiscal year 1987. What is the status of this facility?

Answer: The Commission recommendation for Lonetree Reservoir included completing land acquisition and managing the area for wildlife purposes through an agreement between the Bureau and the North Dakota State Game and Fish Department. In addition, construction site restoration is required. The Lonetree Dam remains an authorized feature under the Commission Plan; however, construction is deferred until a determination of need is completed by the Secretary and consultations with Canada have been satisfactorily concluded.

Because of the significant public concern generated by this recommendation, we have proceeded at a slower pace than was originally projected to restore the construction site. The following steps have been taken:

- Minimal grading and channel modification were accomplished to prevent erosion and protect the foundation which was previously constructed.

- A general management plan was developed for inclusion in the supplementary EIS.

- Replacement lands for Sheyenne National Wildlife Refuge were acquired at the Johnson Lake Area in 1985.

- We anticipate that contractor claims associated with Lonetree Dam Construction will be settled during fiscal year 1986.

- Eight parcels involving 1,043 acres were purchased and two families were relocated in fiscal year 1985; land acquisitions total 30,000 acres through fiscal year 1985. There are nine parcels containing 3,000 acres remaining to complete the scheduled purchase of 33,000 acres.

- Utility relocations are underway and will be continued in fiscal year 1986.

- Relocation of county roads has been delayed until a final management plan is formulated.

The Bureau is pursuing the Commission recommendations to the extent possible.

CRSP - NAVAJO UNIT

SAFETY OF DAMS PROGRAM

Question: An appropriation of $3.5 million was provided in Reclamation's FY 1986 budget under the Safety of Dams - Constuction Program. Your request for FY 1987 shows $6.1 million for this work under the CRSP O&M program, with the FY 1986 amount transferred to other construction work. Can you please explain this?

Answer: The Navajo Dam modification, needed because of seepage problems, was included as a new start in the FY 1986 Safety of Dams (SOD) Program with construction scheduled to begin in April 1986. A preliminary determination has been made that the corrective action was not authorized by the Reclamation Safety of Dams Act since it did not arise from a change in state-of-the-art criteria and thus, Navajo could not be funded by the SOD program.

This determination is under review, however, based on recent analysis which shows that Navajo was constructed utilizing methods and procedures which were considered acceptable technology in the late 1950's and that the seepage problems which have developed at Navajo could have been prevented if the dam were built by today's standards. Thus, the Administration is now reconsidering the position reflected in the 1987 Budget. We will submit a budget amendment if our position changes. The proposed modification, estimated to cost $12.3 million, consists of constructing a concrete diaphram wall in the left abutment and a drainage tunnel in the right abutment.

Question: Please comment on the status of investigations and design of Jordanelle Dam.

Answer: The preliminary report describing the complex geology of the Jordanelle damsite was submitted to the Engineering and Research Center in May 1985. This report has been reviewed and explorations at the site are continuing. It is anticipated that a final geology report will be prepared in the spring of 1986 and it may be expected that supplementary investigations will be required as design progresses to resolve specific concerns. Alternative designs for Jordanelle Dam will be evaluated and it is expected that the final conceptual design for the structure will be accepted in September 1986. We plan to reconvene the panel of consultants which previously reviewed our work at the Jordanelle site to determine whether a safe dam could be built and their review would take place prior to the adoption of a conceptual design.

Mining interests remain concerned about the possibility of seepage from Jordanelle Reservoir severely impairing the recoverability of mineral reserves which are believed to lie below the reservoir basin. Reclamation studies indicate that the Jordanelle Reservoir will not significantly aggravate an already serious problem of seepage which has historically plagued the Park City Mining District.

SUBCOMMITTEE RECESS

Chairman HATFIELD. Thank you, Mr. Secretary, and gentlemen, for your testimony. We will now have our next meeting on March 4 with the Secretary of Energy, an overview of the Energy Department budget.

[Whereupon, at 3:04 p.m. Tuesday, February 25, the subcommittee was recessed to reconvene at 2 p.m. Tuesday, March 4.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

WEDNESDAY, MARCH 5, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:02 p.m. in room SD–192, Dirksen Senate Office Building, Hon. Mark O. Hatfield (chairman) presiding.

Present: Senators Hatfield, Cochran, Mattingly, Stennis, and Sasser.

TENNESSEE VALLEY AUTHORITY

STATEMENT OF C.H. DEAN, JR., CHAIRMAN

ACCOMPANIED BY:
- JOHN B. WATERS, DIRECTOR
- WILLIAM F. WILLIS, GENERAL MANAGER
- BILLY J. BOND, MANAGER OF NATURAL RESOURCES AND ECONOMIC DEVELOPMENT
- LARRY H. EDWARDS, MANAGER OF PLANNING AND BUDGET
- HERBERT S. SANGER, JR., GENERAL COUNSEL
- JOHN T. SHIELDS, MANAGER OF AGRICULTURAL AND CHEMICAL DEVELOPMENT
- JOHN G. STEWART, MANAGER OF CORPORATE ADMINISTRATION AND PLANNING
- ROBERT C. STEFFY, JR., MANAGER OF POWER

OPENING REMARKS

Chairman HATFIELD. The subcommittee will please come to order.

Today, we continue our hearings on the fiscal 1987 budget. This afternoon, we will receive testimony from the Tennessee Valley Authority on their 1987 funding request. We have with us Chairman Charles H. Dean, Director John Waters, and senior members of TVA's management staff. We extend our usual welcome to you gentlemen and are very happy to have you here.

I understand that Director Richard Freeman recently resigned. I know that this leaves a large gap in your operation. I want the record to reflect his absence and express this committee's appreciation for his dedicated service and hard work on behalf of the Tennessee Valley Authority and the people of the Tennessee Valley region.

Mr. Dean, you may proceed with your statement on the fiscal year

1987 budget request. Your statement will be placed in the record. You may proceed to summarize it or highlight it as you wish.

INTRODUCTION OF SUPPORTING WITNESSES

Mr. DEAN. Thank you, Mr. Chairman.

I will summarize it very briefly. I have with me on my far right Larry Edwards, Manager of Planning and Budget; and next to him, Bill Willis, our General Manager; John Waters and myself and Mr. Sanger, General Counsel for the Tennessee Valley Authority. We have others here who can fill in information as needed if certain types of questions come up that fall into their specialties.

BUDGET REQUEST

I am here, of course, to outline the President's budget request for TVA of $58,038,000 for fiscal year 1987. In fiscal year 1987, the administration requests $26,893,000 for natural resource programs to fund the following activities.

The request for 1987 for reservoir system operations is $20.6 million.

A request for $3.5 million is included for water resources. This will support a continuation of some of TVA's ongoing work in water quality monitoring and cleanup in its reservoirs and tributary streams.

A $550,000 request is made for land and forest resources. Resource management and development support funds will continue TVA's work producing maps. The request for this is $2.25 million.

The administration requests $20,635,000 for TVA's National Fertilizer Development Program. This includes a request of $10.43 million for fertilizer research and development and $10.2 million for fertilizer technology development.

There is a request for capital investment funds for 1987 totalling $9.8 million. Included in that are $2.6 million for dam safety modifications, and $4.4 million for chemical plant modifications.

There is a request for general facilities in the amount of $1.3 million in 1987.

POWER PROGRAM ACTIVITIES

TVA's power program has performed well in most areas during the past year, although our nuclear program has experienced major and widely publicized reversals. The availability and efficiency of our fossil fuel plants have been outstanding and we have been able to meet all of the power demands of the region.

A negative note, of course, was our nuclear plants. There we experienced persistent safety-related and management problems that resulted in the Board's decision to shut down our two operating plants and delay our licensing request on a third plant until these problems are fully identified and resolved.

It is impossible to project at this time when these problems will be resolved and the plants can be returned to service. The Board has taken bold action to correct the problems and get TVA's nuclear program back to the leadership position it once enjoyed in the industry. The

Board has brought in retired Adm. Steve White, who has had many years experience in the nuclear navy, and delegated to him the authority and responsibility to find and fix the chronic problems that have brought our nuclear program to a halt.

On the positive side, a significant milestone was reached last September in TVA's cooperative program to test and demonstrate advanced technologies that can help the electric power industry improve its performance and meet future demands in economical and environmentally acceptable ways. Leaders in the Nation's electric power industry, in government, and in the transportation and coal industries joined TVA at our Shawnee steam plant near Paducah, Ky., to break ground for the Nation's first full-scale test of the atmospheric fluidized bed combustion process for burning coal to generate electricity. The process, which has been tested in a smaller pilot plant, promises a cleaner and more efficient way to use the Nation's plentiful high-sulfur coal supply in electric powerplants. TVA's successful tests of ways to improve the dissolved oxygen levels in releases from large hydroelectric dams are attracting the attention of dam operators across the country, while TVA's cooperative work on the causes and effects of acid rain also continues to produce nationwide interest.

That is my statement regarding the administration's budget, Mr. Chairman.

[The statement follows:]

STATEMENT OF C.H. DEAN, JR., CHAIRMAN

Mr. Chairman, I am here to outline the President's budget request for TVA of $58,038,000 for fiscal year 1987. This year's budget program provides for sharply reduced levels of activities.

In fiscal year 1987, the administration requests $26,893,000 for natural resource programs to fund the following activities:

The request for 1987 for reservoir system operations is $20.6 million.

A request for $3.5 million is included for water resources. This will support a continuation of some of TVA's ongoing work in water quality monitoring and cleanup in its reservoirs and tributary streams.

A $550,000 request is made for land and forest resources in order to allow TVA to continue managing the water levels in wetlands adjacent to its mainstream reservoirs.

Resource management and development support funds will continue TVA's work producing maps of the valley region, as part of the USGS National Mapping Program, and activities that ensure TVA compliance with Federal and State environmental management regulations. The request for this work is $2.25 million.

The administration requests $20,635,000 in fiscal 1987 for TVA's National Fertilizer Development Program. This includes a request of $10.43 million for fertilizer research and development and $10.2 million for fertilizer technology development.

The request for capital investment funds for 1987 totals $9.843 million. Included in the request are $2.6 million in appropriated funding for dam safety modifications, and $4.4 million for chemical plant modifications.

The request for general facilities is $1.333 million in 1987.

We also would like to inform the subcommittee about our power program which, of course, is not financed with appropriations.

TVA's power program has performed well in most areas during the past year, although our nuclear program has experienced major and widely publicized reversals. The availability and efficiency of our fossil fuel plants have been outstanding, and we have been able to meet all power demands of the region, despite the loss of our nuclear generation, without major problems. Our hydroelectric plants, although performing well, experienced a significant drop in production last year because of the most severe drought on record in the Tennessee Valley.

Electric rates remained virtually unchanged for 3 years in a row, before rising a relatively modest 6.9 percent at the beginning of the current fiscal year.

A negative note in our power program last year concerned our nuclear plants. There we experienced persistent safety-related and management problems that resulted in the Board's decision to shut down our two operating plants and delay our licensing request on a third plant until these problems are fully identified and resolved.

It is impossible to project at this time when these problems will be resolved and the plants can be returned to service. But the Board has taken bold action to correct the problems and get TVA's nuclear program back to the leadership position it once enjoyed in the industry. The Board has brought in retired Adm. Steven A. White, who has had many years of experience in the nuclear navy, and delegated to him the authority and responsibility to find and fix the chronic problems that have brought our nuclear program to a halt.

Despite the problems with our nuclear program, the TVA power system is continuing to serve a valuable national demonstration role in the areas of conservation, energy management, research and demonstration, and environmental protection.

Conservation programs in the TVA region show potential for reducing electricity consumption by 11.6 billion kilowatt-hours by the year 2005. TVA has reached its fiscal year 1985 goal for solar water heaters with nearly 1,600 installations. Since the beginning of TVA's conservation program, 935,000 consumers have received free energy surveys; more than 500,000 homes have been weatherized under TVA's Energy Conservation Program.

A significant milestone was reached last September in TVA's cooperative program to test and demonstrate advanced technologies that can help the electric power industry improve its performance and meet future demands in economical and environmentally acceptable ways. Leaders in the Nation's electric power industry, in Government, and in the transportation and coal industries joined TVA at our Shawnee steam plant near Paducah, KY, to break ground for the Nation's first full-scale test of the atmospheric fluidized bed combustion process for burning coal to generate electricity. The process, which has been tested in a smaller pilot plant at Shawnee, promises a cleaner and more efficient way to use the Nation's plentiful high-sulfur coal supply in electric powerplants. TVA's successful tests of ways to improve the dissolved oxygen levels in releases from large hydroelectric dams are attracting the attention of dam operators across the country, while TVA's cooperative work on the causes and effects of acid rain also is producing nationwide interest.

AGENCY MORALE

Chairman HATFIELD. Chairman Dean, I will yield very quickly to my colleagues, the Senators from Mississippi, who have some interest, of course, in this program, as well. Before I do that, I would like to embark upon another delicate situation for just a few monents.

I have full empathy for the difficulty that I perceive, or at least I understand, exists. I suppose I would key it to a rather interesting quote by John Gunther from "Inside U.S.A." He wrote on the Tennessee Valley Authority and he said:

> The greatest thing about the TVA is the factor of morale. Never in the United States or abroad have I encountered anything more striking than the faith its men have in their work.

How would you assess the morale today within the TVA structure?

Mr. DEAN. I, along with Director Waters and other people in top management at TVA, have visited the various field installations and offices, essentially all of them that we have. We currently have about 29,000 people scattered over seven States. We are concerned that in some places in the agency, morale seems to be below par.

I am pleased to say that in many places, including some of our nuclear plants, the spirit is good. It is not as consistent as it was, perhaps, when Mr. Gunther visited the organization. The nature of workers today is somewhat different, probably, from what it was then.

We are concerned that there should be any areas in the agency that have poor morale, and we are trying to do the things that we feel that we can to help that. It should be pointed out that when I came to the Board in 1981, we had about 55,000 employees. We are now down to less than 30,000. We have the threat every year, on top of that, of having our appropriated budget cut drastically, and then we have some problems which I mentioned earlier in our nuclear program.

All of these things do make people uneasy, and we just have to acknowledge the fact that we can do better in that field and continue to try.

Chairman HATFIELD. Chairman Dean, would you not agree that the morale and other such factors will be a very important weapons and tools in dealing with the critical program problems within the agency? Assuming you agree more or less with that thesis, what do you see as the opportunity or the responsibility of the Directors of TVA to help in recreating an atmosphere of faith, belief, concern, and morale that appears to have slipped, at least in some parts, from your operation?

Mr. DEAN. I think that in areas where we know employment, for instance, will be stable we should be quick to identify the fact that the people there, as long as they perform properly, will be assured jobs. We have given a lot of thought to how we can identify the areas where we won't be faced with any massive attrition.

Actually, looking back over the last few years, we are just now reaching a stage of relative stability in our employment. We have, on top of that, just brought in an Inspector General at TVA who will give employees some place that they can take their problems completely unrelated to the line management of the agency. Our Inspector General has, in fact, started receiving comments from employees who will never be identified to the management; the problems will, but not the identity of the employees.

I believe that is certainly a positive step. We are acting on the advice of the Congress up here in Washington. We have a relatively new Director of Employee Relations, Mr. Thompson, and he is aggressively pursuing these problems. We are concerned that we have good morale in the agency.

EMPLOYEE HARASSMENT AND INTIMIDATION

Chairman HATFIELD. You identified the impact of attrition, diminishing employment at the agency. How do you respond to the continuing charges of employees who feel there is harassment and intimidation, particularly relating to the safety factors in the nuclear power program?

Mr. DEAN. We have always investigated the intimidation or harassment problems. Mr. Sanger's Office of the General Counsel has been charged with that, and his people have investigated numerous allegations. The Inspector General now has this responsibility. We have had situations where we have had to discipline people for actual intimidation and harassment, and then we have had situations where people have been accused and are proven to be innocent.

We have never been bashful about attacking those problems.

Mr. Sanger, would you like to expand on that?

Chairman HATFIELD. Mr. Sanger?

Mr. SANGER. Thank you.

I think the starting point is to indicate that the Board, in 1981, on its own initiative, by the way, adopted a formal agency policy and made that policy available to all employees. That policy stated that employees had a right to express any kinds of views that they have about any sort of agency matters and that they could do so without fear that they would suffer adversely from having done so.

I think, from the top of the agency—and this is my perspective from looking at the actual charges to which you referred—I think from the top of the agency there has been immense and effective Board support for it.

Unfortunately, some of that did not permeate the line management, where you really should deal with those problems. My office has investigated those charges and in a few instances, we found employees who have provided information were thereafter treated badly.

Those employees who were guilty of those offenses have been dismissed from employment. The conclusion that we can reach is that the Board does have an effective policy. More importantly, the Board has supported my office in the enforcement of that policy, even in the face of some objection by some of our managers.

Then we have gone ahead with implementing that policy, and I think we are on the road to curing the harassment problem, and I think substantial progress has been made.

It is very important that those things be looked at carefully, because in each case of a person claiming to have been harassed, you also have a person who is charged with harassing them. So you have to do those investigations carefully. You have two people there whose rights you want to protect. You want to be sure that the charging person has an opportunity to fairly present his claim.

It is also a difficult thing for the person who is charged. You want to be sure that you have the right facts and if you do, indeed, find another person harassing someone, you terminate them. We do have processes in the agency.

Chairman HATFIELD. Mr. Waters, do you have anything to add?

Mr. WATERS. Thank you, Mr. Chairman.

I don't have much to add, except I would like to underscore that we take this very seriously. The matter of morale among employees is a very serious matter with us. We recognize that it is the kind of matter that we must address from the very top of the agency. It is not the kind of thing you can delegate to others.

It is our responsibility, and I don't think I have any more important job as a director of TVA than to make sure I am aware of what is going on among the employees at TVA. It is difficult for the Board to cover all of Tennessee and parts of six other States. There are an awful lot of coal-fired plants, dams, an the nuclear plants. We are going from the phase of being the big builder, the big construction facility, to an era where it is time for us to focus on operations and efficiency of operations.

It is a different character of work. It was a little bit more glamorous, I guess, to be the big builder, a little bit more fun, maybe, and we had people at TVA that felt very strongly about it, there was a lot of pride at TVA. We think we can regenerate that and keep our pride by telling our people and convincing them that efficiency is just as important and recognizing good, quality work when we see it.

Wherever I go in TVA, I am just amazed at the very, very fine people that I find working for TVA. They are dedicated people who love TVA. They feel strongly about their job and they are highly professional and, quite frankly, they make me very, very proud to be a TVA Director.

So I think we have a problem, we recognize it, and I think we are addressing it.

Mr. DEAN. I have to say in addition to that, Senator, that our people, our employees, are scattered all over the valley, and in the valley and in the TVA area that we serve, TVA is still seen as a very desirable place to work.

We had a few openings during the jobs bill days a couple of years ago, and we had at least 10 applicants for every opening we had. Finally, we had to stop taking applicants because we were swamped. So TVA is still perceived to be a good place to work.

Chairman HATFIELD. Thank you.

TVA IMPACT AND CONTRIBUTION IN THE REGION

Now, I would like to yield to the ranking member of the committee, the Senator from Mississippi, Senator Stennis.

Senator STENNIS. Mr. Chairman, I am going to be quite brief here. This is one of the few occasions when I feel that I know a little bit about the real facts and know what I am talking about in this case.

This area, part of it, is where I live. It is where I have always lived, and I am not going to move now. [Laughter.]

I am familiar with the facts from the ground up since my early days on the farm. I know what it means. For instance, in the county where I live, in the TVA area, not many years ago, we would make from 20,000 to 22,000 to 23,000 or 24,000 bales of cotton for a year. Now, we don't have a single cotton gin in the county, not one. I judge there is less than 100 bales grown in the whole county, and that is down on the border, down a little further.

Just as an illustration, we have fine timber, mighty slow growth, but it is good quality pulpwood from fine timber trees, and I live right in the middle of that and know what has happened there. All of a sudden, Canada shows up with timber at a price that they can deliver to a house builder, or ever they are going to use lumber for, at a lower price than we can. In some cases, it is grown within a few hundred yards of the house that is being built.

To meet those kinds of conditions, we have this splendid agency here. I am not given to bragging on people. They haven't done anything for me personally. But they do a splendid job, TVA does, in the areas of work and leadership and planning, helping out employees. It is a quality job. I know; I see it. I see results of it over the years, not just yesterday, but over a period of years.

I don't know anyone that is better prepared at their work in leadership than these people I am talking about. I am talking about the ones that work out in the local area. They know what they are doing and know what is needed. They know how to get results, and they are very dedicated and very proud of their work.

Now, my voting record is not the best in town for low figures, but I usually will vote for the low dollar, as you know, and I have joined in trying to solve our economic problem by getting the budget somewhere in the neighborhood of balanced or straightened out—I would rather use that term.

So I don't have any money to throw away for myself or anyone and to vote for that purpose. I want to feel like I know what I am dealing with and carry that over into money affairs. Because if we don't keep our Government sound or show some improvement in the financial world over economic conditions, then we are not long to be a leader any more. We will be someone who trails along and takes what they can get.

Now, I am, with all deference to everyone, I am as troubled here at these figures for work of this kind. The budget figure on it has dropped from $125 million in 1985. The 1986 budget was $104 and the 1987 proposed budget is $58 million. If the program has worked at Continental and they are doing a half good job, that is very severe, particularly in these times.

Someone said, "Well, people can't get a job if the job plays out and half a job is not enough; let them move on. Let them move on."

Listen, Mr. Chairman, these are not cattle or animals of some kind we are dealing with. These are human beings. These are people. These are people that have been carrying on, now, for these decades and decades of time.

By the way, TVA, in working up some matters and looking over the land, took the Choctaw Indian, American Indian, the Choctaw tribe, big people, big people. They hadn't had enough training and leadership. I went out to see what they were doing. I know what I am talking about there. They have had the contract now for 3 years, I think, with General Motors.

It is a large contract. They put the wires together and tie it up and take it up and everything, ready to put in the car. All that is under the dashboard of your car now, the contract with General Motors for Chevrolet, Buick, Oldsmobile, that type of automobile. It is coming along splendidly, and TVA, they needed leadership. It takes money, it takes money to make those factories.

We have to supply water, sewage, and all the things that go in front of the big money. TVA is the one that deserves the credit, and the Choctaw Indians are high-quality people. They deserve credit, too.

In these times that we have, we are not going to run out on all the plans and obligations, really, that we have had to other countries or in other programs in America. Those that are trying and those that are producing and those that are paying off and making the economy more productive and the people fixed where they can live, they are the ones that we are going to work the hardest to retain, and they are the ones we are not going to end, to terminate. It just doesn't make sense. I will go as far as anyone will go on a conservative program of making reductions that can be safely squeezed out and make the total sum less, when possible.

But we have got to stand up. I support a reasonable amount of the foreign aid. I have never drummed up sentiment against it or anything like that. I think we have got to join in each problem in other areas.

But my goodness alive, to come down to a matter of just trimming off figures like this, with all deference, I think whoever prepared these figures just didn't have enough personal knowledge of facts and conditions that they were working on and the mission that they were supposed to carry out.

So I know something about the experiences and the sentiments of this committee, the leadership. I have worked with many of you for a long time, and this is the greatest training that I have had since I have been in the Senate—serving on this subcommittee from way back yonder and going out into various areas of the country to see what people have been able to do with a little leadership and a little encouragement and a little money, relatively little, over the years to carry on these programs.

So I am not just for this one, I am for all of them, properly planned, and not just for this year; I have been for it many years.

I am satisfied in my mind that as long as we stick to a policy of strengthening our economy and expanding it and making it productive and helping the people that happen to live there meet these abnormal conditions, then we are going to remain strong, powerful and—I won't say rich, but we are going to be productive and a solid leadership part of the Nation.

I want to thank you and others for what you have done before and I believe that you get into these facts, and I am greatly impressed with it. I commend these gentlemen for the work they do, and those out in the field. They have never done anything for me personally, but it is one of the finest agencies I know.

Thank you very much.

Chairman HATFIELD. Thank you very much, Senator Stennis.

I think it is well from time to time to get an overview and perspective of the history on these issues. We tend to sort of think of them from year to year, so Senator Stennis provides us with a lot of that continuity, a lot of that marvelous historic perspective.

[The statement follows:]

STATEMENT OF SENATOR STENNIS

Mr. Chairman, I want to underscore the position which I have taken, year after year, in opposition to the budget proposals to terminate or drastically reduce the programs of the Tennessee Valley Authority. The proposals in this year's budget to terminate TVA's programs as well as other economic development programs are ill advised and would do serious harm at a time when the programs are most needed.

Termination of Government economic development programs ignores the hard economic conditions which confront many areas of the Nation. As the chairman knows, there is considerable turmoil in world markets which is reflected in the largest trade deficit in the Nation's history. These market changes have been felt in the farm and forest communities and the small factory towns. Unemployment is far too high in far too many towns and counties for us to ignore. There is a steady stream of factory, sawmill, and farm foreclosures to remind us that the U.S. economy is undergoing a dramatic change. The enormous problems of the global economy come right home to our small towns and, the people in these towns have no place to turn but their Government.

It is well recognized by the budget makers that the solution to international economic problems require government intervention and assistance. Our foreign aid budget and the Secretary of the Treasury's efforts to achieve a more stable currency reflect that commitment. However, the budget fails to recognize the tremendous need for assistance within our own economy.

I am deeply concerned that we are gradually abandoning millions of workers who have lost their jobs because of changes in the world economy and millions of new young workers who can't find jobs. I believe that we must remain committed to the people in these small towns. It is important that we carry forward with programs to develop these areas, and eliminate the conditions that create poverty and despair. In this regard, agencies like TVA which have a treasure of knowledgeable experts are too valuable to disband. They have the experience and talent to help pull the country through this difficult time.

I strongly urge the committee to continue the TVA program. I know like other areas of the government that they can cut back and get by on a little less, but this is no time to stop these programs. They must continue until the administration and the Congress work out a plan for dealing with the economic problems that continue to plague the country. Further, I would highly recommend that TVA be called upon to help develop a national recovery plan for rural areas and small towns.

ECONOMIC DEVELOPMENT ACTIVITIES

The Senator from Mississippi, Mr. Cochran?

Senator COCHRAN. Thank you very much, Mr. Chairman.

I, too, am disturbed about the budget request this year, because it concerns me in terms of what you are not going to be able to do as compared with what you have been doing in the past in some of these economic areas of activity.

I know, and everybody realizes, that we have just seen completed in this region the Tennessee-Tombigbee Waterway, and I know there had been earmarked in your appropriation some money to help with economic development activity along that waterway. A little over $1 million last year was allocated for that purpose.

Mr. Chairman, could you tell me how that money was used last year, how the money is being used this year, and what you will not be able to do if no money is appropriated for that purpose next year?

Mr. DEAN. The current status of that project is that the Wood Products Marketing Cooperative, Inc. has hired a manager, signed a number of trust agreements and contracts, and prepared a draft business plan. Export marketing assistance has been provided to nine forest product firms. Missions to several foreign countries have been organized. Mr. Willis might want to talk about the future.

Mr. WILLIS. I think the first year's work was really spent assessing the assets that were in the region that could be marketed using the Tenn-Tom as a tool to get it to the marketplace. We worked mostly in the wood products area to assess what markets were available and what resources were available. Working with the private sector, we helped them market their products and showed them how they could use the waterway to do that.

That was principally the first year's work. This year's work is getting those people into that market center, introducing them in Europe, where the opportunities are to ship their woods products, working with communities to help them prepare to take advantage of the opportunities that will result from the Tenn-Tom development, and we have had good success.

They are now in shape to start attracting the industries that can benefit from the waterway being there. So the first year's work was really assessing the strengths and the product of the area and determining where the market was. This year's work is assisting those people to get to the marketplace, introducing them to the market so the private sector and private enterprise could take over and utilize the benefits of the waterway.

Senator COCHRAN. Will there be an adverse economic impact on the persons who were anticipating technical assistance and other assistance that TVA has been able to provide?

Mr. WILLIS. Yes, sir, I believe there would be an adverse impact if TVA's funds were eliminated, because we have been cast in the central role of pulling all the resources together. We haven't had the big dollars, but we have had enough to proceed in a role of managing, pulling the various people from the State government and private sector and other partners together. We are concerned that if we are not there, if we don't have the resources, if we have this budget level, this role could not have been played. The efforts that we have got going would certainly be slowed down greatly. I am not sure that there is anyone else that could pick up that central role. I do fear that there would be a drop in that program, and we would have some adverse effects from that.

Senator COCHRAN. I know that one of the first business enterprises to be constructed along the Tennessee-Tombigbee Waterway is in Amory, MS. TVA played an important role in helping put together a package of government assistance programs and activities with the private sector and local and State government to make that an enterprise that was feasible. This project is now under construction with a large amount of the work having already been completed. Is that the type of project that you are describing?

Mr. WILLIS. Yes, sir, that case, and dozens of other similar projects like that that we are beginning to work on with communities, the private sector, the local governments, and development organizations. They are coming to us to use our experience that we gained on the Tennessee River by developing the industrial potential, and they want to use that same expertise at TVA to assist them there. They are counting on us to be there at the table to help them.

Senator COCHRAN. Mr. Chairman, I think we need to recognize that this is an important function TVA has performed in the past and that TVA is continuing to be a very important factor in the economic development of the region. This is particularly evident in view of the construction of the Tenn-Tom Waterway and the potential that it offers to that region of the country. I know that other members of the committee are going to look very carefully at the budget request as it affects the ability of TVA to perform that function in the future.

AGRICULTURAL RESOURCE DEVELOPMENT

One other area that concerns me is agriculture resources development. I know that is an activity of the Authority, and I am not sure there is enough money in this budget for the continued funding of those activities.

Could those functions and activities be performed by the Department of Agriculture or some other Government or private sector entity if TVA is unable to continue funding? What is your assessment of the impact on the region if funds aren't made available for agriculture resources development?

Mr. DEAN. I might say to start with, Senator, that as a general policy matter, TVA, in doing its work on agricultural resources, is a cooperator with the Department of Agriculture and the State agriculture departments and land grant colleges, et cetera. I think one of the most outstanding examples of a massive problem that certainly affects your State is the terrible erosion that has developed in the western end of the TVA area.

That is a general statement. For a more specific answer, I will turn to John Shields, our agriculture and chemical development manager and let him talk about the program.

Mr. SHIELDS. The program Mr. Dean refers to is the program we call the Land and Water 201 Program, which is the 201 power service counties in the TVA area. What the TVA has done under the leadership of Chairman Dean is to sign an agreement with the Secretary of Agriculture and with the Governors of the seven States to work on the soil erosion problem as it relates to water quality, runoff, and so forth. It is the first time as an agency that we have put together that kind of an activity.

The key here is the fact that TVA is using a relatively small amount of money to leverage the money of about six or seven different agencies.

Senator COCHRAN. Mr. Chairman, I have one other question. I know Senator Sasser is here, and Senator Mattingly was here and they have questions. This will be my last question.

I notice in your testimony, Mr. Chairman, that you mention the nuclear program and the fact that in your words, "It has experienced safety-related and management problems that resulted in the Board's decision to shut down two operating plans and delay licensing requests on the third plant," and that you have brought on board retired Adm. Steven A. White to find and fix the chronic problems.

Have any problems been found and have any problems been fixed?

Mr. DEAN. That is a good question.

Senator, Steve White will appear March 11 before the Nuclear Regulatory Commission. When he first came on board TVA, he asked for some time from NRC to bring in his team and completely survey the TVA situation.

Mr.White will go to the NRC, as I said, and discuss his findings. I have not seen an advance copy of his statement. I appeared with him yesterday, but we did not get into these details. It is not going to be a thin book. It will be a list of the things that need to be done to bring these various reactors back on line.

We do not have a situation where we have a serious threat to public safety. The problem is that we found that at the Sequoyah nuclear plant we simply were not in compliance with the regulations that we needed to be in compliance with to operate the plant. That takes a lot of detailed engineering and a lot of detailed documentation. That is the type of thing that he is going to have to get a handle on. He will report to the NRC next week. I doubt that he will talk about what has to be done. I doubt if he will put a schedule on it. He is going to get after it, but I don't know if he will put out detailed dates. But I am not trying to speak for him. I will be up there with him and look forward to hearing the report that he gives at the NRC.

Senator COCHRAN. I gather it is the intention of the Board under your leadership to take such steps to resolve these identified problems so that these chronic difficulties can be overcome.

Mr. DEAN. We have recognized the fact that we have problems. We have taken rather drastic action in bringing in a team of experts to help fix these problems.

Senator COCHRAN. Thank you very much.

Thank you, Mr. Chairman.

Chairman HATFIELD. Thank you, Senator.

The Senator from Tennessee, Senator Sasser?

Senator SASSER. Mr. Chairman, I am going to yield for a moment to my distinguished friend, Mr. Stennis.

Senator STENNIS. I thank the chairman.

I would like consent to have my prepared remarks put in the record.

Chairman HATFIELD. The Senator from Mississippi's statement will be inserted in the record following his oral presentation.

Senator Sasser?

Senator SASSER. Thank you, Mr. Chairman.

I want to welcome Chairman Dean and Director Waters and the other members of the Tennessee Valley Authority here today. It is always a pleasure to see the members of the Board here and the distinguished General Manager, Mr. Willis, and others. I want to welcome you and say that I note that one is not with you today, and that is Director Richard Freeman.

I would like to take just a moment and say that Richard Freeman's advice and counsel with regard to the Tennessee Valley Authority has been invaluable to some of us here over the years, and he has done yeoman's service on the Board as a Director of TVA during some very turbulent times. I am sure that he will be missed by his fellow Board members and fellow colleagues at TVA, as I will miss him.

Senator STENNIS. I certainly agree with your sentiments and join in the expression you have given.

Senator SASSER. Thank you, Senator Stennis.

I also am disturbed about the budget cuts that the administration appears to be intent on imposing on the Tennessee Valley Authority again this year. This is, as I recall, the third year in a row that we have had to fight these battles here in Congress to try to reinstitute some of the budget cuts that the administration has insisted upon. I fear that these battles will get harder and harder. They seem to get more difficult every year. But it would be, I think, a great disservice to the Tennessee Valley area if these cuts that the administration is proposing were, indeed, to become a reality.

I would say to you, Mr. Chairman, we made enormous progress in the Tennessee Valley Authority, the Tennessee Valley area over the last 50 years and we are very proud of that. The Tennessee Valley Authority has played a leading role and has been on the cutting edge of that progress.

But we have still got a long way to go when we look at per capita income in our area. The States that the Tennessee Valley Authority serves are still among the lowest per capita income States of all the 50 States. I think this would be a poor time to cut back on the economic development functions, for example, of TVA which create jobs and seeks to bring industry, and also, it would be a poor time to cut back on some of the recreational activities which also not only protect the environment in our region, but also attract a lot of tourist dollars that are very badly needed and reflow back into the Federal Treasury as tax dollars.

IMPACT ON ENVIRONMENTAL PROGRAMS

Mr. Chairman, I might ask you, or Director Waters, what about the loss of environmental initiatives if these budget cuts go through? What kind of impact do you think the budget cuts that are being proposed would have on the environmental problems of the Tennessee Valley region?

Mr. DEAN. We have a number of initiatives that really are national in scope, where the TVA, because of the unique collection of experts that we have on board, are in a position to address these problems, not just for our region, but for the Nation as a whole.

For example, we have launched studies of ground water. Two-thirds of the people in the area we serve drink ground water; that is, water out of wells. There are some strange things happening to ground water in different parts of our area.

In Mississippi, it is being pumped out. It is disappearing. In the eastern end of our area, east Tennessee and North Carolina, there is, because of the peculiar way that the rock formations are, things are getting into the ground water that shouldn't be getting in, and we have started studies up in East Tennessee to try to determine ways to clean it up. We have had some success. That is one type of program.

The very fact that things are getting into the ground water leads us to the very next area that we initiated some rather extensive studies and talked to the EPA about, and that is the disposal of toxic waste. Toxic waste is sometimes called industrial waste, but it matters not what you call it. It shouldn't be buried in the backyard in a 55-gallon drum so that it can leak out into somebody's water system. Large industries are pretty well able to handle their toxic waste, but the smaller ones can't. There is a certain limited amount of disposal room in the Southeast. It can be a hindrance to industrial development. We can't currently handle toxic waste. Learning how is a program we have been working on.

We have had extensive studies of other such environmental problems, such as secondary pollution in our lakes. Of course, we are operating and feel some responsibility for the quality of water in the Great Lakes in the South which we operate, and we take a great deal of interest in water quality in various ways.

We are very interested in air pollution, because we are a large consumer of coal. TVA spent $1 billion already to help clean up the air, and we are looking at programs that will clean it up even further, such as our fluidized bed program as I mentioned earlier. When you are in charge of a tremendous reservoir system and when you have got a big agricultural program, when you are operating a power system that uses both coal and nuclear and, of course, hydro, you automatically impact the environment, and you have to take an interest in it. The money that TVA spends for environmental studies which can benefit the whole country, when you look at it in national terms is a small amount of money, but it can be very important.

One major breakthrough, for instance, was in converting wood into ethanol. There will be no funds for this project under the proposed budget, but work completed thus far has brought the Nation one step nearer to energy independence, one step nearer something to do with waste wood, converting it to alcohol. The plant is built at Muscle Shoals. It hasn't been completely outfitted or completed its test runs. But it offers tremendous potential for the whole country.

I could go on, but that gives you some idea of the type of environmental research TVA is involved in.

John Waters, do you want to add anything?

Mr. WATERS. I think the Chairman has covered the matter very well, Senator. I think you know that it is so important that we continue these programs, and I would like to stress that I don't think they would just have an impact in the Tennessee Valley, but I think the money that we are discussing, we did ask for in our original budget, is money well spent by any taxpayer in this country.

The benefits will include the people all over the Nation if we can discover the clues that we are working for, if we can improve these terrible environmental conditions surrounding, particularly ground water and pollution, both nonpoint and point pollution of the Nation. Water quality in general is a very precious commodity, and one that we simply have not handled very well in this country. We need to do as much as we can to preserve it, protect it, and keep it adequate. A clean, safe water supply for the American people is a high-priority item.

SALE OF POWER MARKETING ADMINISTRATIONS

Senator SASSER. Gentlemen, there is an administration proposal to sell of the Bonneville power facility and other power marketing authorities. I suspect there are at least one or two members of this subcommittee who would be opposed to that. I know I certainly would. There has been some feeling that if these efforts to sell off Bonneville and the power marketing agencies are successful, that the Tennessee Valley Authority is going to be next up on the auction block.

In a recent survey by the Heritage Foundation, a recommendation was made that TVA be sold along with five other power marketing authorities.

Gentlemen, can you give me some impact of what it would be specifically, what would be the impact of selling the Tennessee Valley Authority on the electrical rates that are paid by the power consumers in the Tennessee Valley area? What would happen to their electrical bills, in your judgment, if TVA were sold?

Mr. DEAN. Well, as I remember the Heritage study, they came up with the figure—and they have got their own economists—they came up with the figure that the TVA should bring around $60 billion as I remember, somewhere in that range. Our indebtedness now is about $15. It doesn't take anybody too far along in school to see that if you quadruple your indebtedness and you have got to get a return on your investment, it is going to double or perhaps triple our power rates.

There is no other place to get the money but from the pocket of the consumers.

Senator SASSER. So in the event TVA was sold at what they assess the value to be, at $60 billion, and your indebtedness is now $15 billion, an accurate assessment would be that the electrical rates would have to triple in order to pay off the indebtedness?

Mr. DEAN. I would say that is a very good estimate.

Senator SASSER. Let me just move back to one more question, gentlemen, and then I will give it to the chairman.

Chairman HATFIELD. No. That is all right. I think it is interesting to get into these speculative questions. [Laughter.]

IMPACT OF PROPOSED BUDGET CUTS

Senator SASSER. Can you give me some examples of what programs would be eliminated if the budget cuts that the administration is proposing were implemented? What programs would be eliminated? We hear a lot of talk about the States or other governmental agencies picking up various and sundry functions and responsibilities if the TVA were forced to abandon them.

My question to you is, What programs would be eliminated, what, if any, or could they be picked up by States or other governmental agencies?

Mr. DEAN. The Natural Resources Program, a lot of that program would be eliminated to the tune of about $22 million, and those kinds of programs—forestry work, conservation work, wildlife—those are the types of things that would be eliminated because there is no other money around, I don't think, to pick up a lot of that.

TVA's economic development program would be completely eliminated. I would like to emphasize, Senator, that we have got two economic development programs that are, we think, examples that should be seriously looked at for other parts of the country. One of them is called the Existing Industry Program, where we offer technical expertise with industries to help them expand and hire more people.

Another one is the Special Opportunities Counties and Cities Program where we go in to areas where there is a high rate of unemployment, and we try to leverage our money working with other agencies and get things going, something like Senator Stennis referred to, our project with the Indians down in Mississippi.

Both of those programs would be eliminated; the natural resources budget is cut to the bone, and there is nobody that I know of to take it up. The Land-Between-the-Lakes, which is the second largest park area in the eastern part of the United States, is stricken completely from the budget. Nobody has even made a proposal as to who would look after the property or take it up. That is a very innovative park and it belongs to the people of the United States of America. It would just sit there, I guess. There has been no proposal to take it over. We have asked for about $7 million, and we have about another million and a half that we raised by user fees and selling timber and things like that. That is one thing that would go on no more.

Those are the types of things that would be eliminated. Of course, we will supply for the record some details as to the exact programs, but those are the general types of programs. If that doesn't completely answer your question, I am sure we can provide more detail on the issues you have raised.

Senator SASSER. The bottom line is, as I understand your answer, Mr. Chairman, if many of these programs were eliminated as a result of the budget cuts, then we do not know that the state or other agencies could pick them up. We think they just simply would collapse. Is that a fair assessment?

Mr. DEAN. That is the essence of it. Most of them would just be dropped completely.

Senator SASSER. Thank you very much.

Thank you, Mr. Chairman.

Chairman HATFIELD. I thank the Senator from Tennessee.

[The information follows:]

FUTURE OF THE TENNESSEE VALLEY AND THE NATION

Tennessee Valley Authority
Knoxville, Tennessee
February 1986

The following material is provided as requested and highlights the Tennessee Valley Authority's historical mission as well as its future plans as impacted by the President's proposed budget for fiscal year 1987.

Summary of Budget Financed from Appropriations
(Obligations in thousands of dollars)

		1986		1987	
	1985 Actual	Before G-R-H	After G-R-H	TVA Request	President's Budget
CAPITAL INVESTMENT					
New lock at Pickwick Landing Dam..........................	6,257	709	709	-	-
Columbia Dam and Reservoir....	1,347	863	863	-	-
Dam safety modifications......	1,203	5,942	5,857	2,610	2,610
Additions and improvements....	2,454	3,957	3,864	2,358	1,500
Recreation facilities.........	219	250	240	250	-
Land Between The Lakes facilities..................	75	110	106	95	-
Floodplain management facilities..................	177				
Yellow Creek port.............	29				
Ammonia from coal.............	408				
Chemical facilities...........	7,668	5,391	5,191	5,050	4,400
North Alabama coal-to-methanol project.............	2,134	1,935	1,935	-	-
General facilities............	1,472	2,359	2,278	2,052	1,333
Total capital investment..........	23,443	21,516	21,043	12,415	9,843
EXPENSES					
NATURAL RESOURCES					
Water resources					
Regional water management...	4,376	4,775	4,576	4,400	2,612
Reservoir releases improvements...............	1,020	1,086	1,041	1,086	888
Fisheries resources.........	584	615	615	615	-
Floodplain management.......	1,911	1,900	1,821	1,900	-
Bristol water project.......	5,000	-	-	-	-
Total water resources	12,891	8,376	8,053	8,001	3,500
Reservoir system operations					
Navigation operations.......	1,369	1,683	1,618	1,625	1,479
Flood hazard analysis.......	543	500	478	520	350
Multipurpose reservoir operations:					
Water control opreations..	2,123	2,293	2,193	2,398	2,398
Reservoir ecology.........	1,884	2,393	2,289	2,501	2,501
Reservoir lands planning..	691	778	740	690	350

[illegible]
(Obligation [illegible] of dollars)

		1986		1987	
	1985 Actual	Before G-R-H	After G-R-H	TVA Request	President's Budget
EXPENSES (Continued)					
NATURAL RESOURCES (Continued)					
Reservoir system operations (continued)					
Multipurpose reservoir operations (continued):					
Dam reservations operation and maintenance..........	2,606	2,697	2,628	2,819	2,819
Reservoir land management.	4,209	4,702	4,457	4,729	1,914
Plant protection and services to visitors.....	3,111	3,237	3,169	3,334	3,334
Dam safety analysis.......	1,319	1,565	1,501	1,629	1,683
Structures and equipment maintenance and improvement..............	3,003	3,843	3,698	3,805	3,765
Subtotal MRO.........	18,946	21,508	20,675	21,905	18,764
Total RSO...........	20,858	23,691	22,771	24,050	20,593
Land and forest resources					
Forest resources...........	2,513	1,850	1,775	1,850	-
Wildlife resources..........	1,018	915	880	915	550
Recreation resources........	863	935	899	935	-
Environmental/energy education.................	540	600	576	600	-
Total land and forest resources..........	4,934	4,300	4,130	4,300	550
Resource management and development support					
Valley mapping and remote sensing....................	1,084	1,100	1,057	1,100	1,100
Conservation of public lands and waters...........	937	1,000	944	1,000	750
Regional air quality management.................	678	755	728	680	-
Acidic precipitation........	-	400	400	400	400
Waste management............	1,708	1,905	1,841	1,625	-
Total resource management and development support.	4,407	5,160	4,970	4,805	2,250
Land Between The Lakes........	7,308	6,985	6,712	6,900	-
Total natural resources..........	50,398	48,512	46,636	48,056	26,893
ECONOMIC RESOURCES					
Navigation development and engineering assistance.......	1,315	1,150	1,120	1,150	-
Economic projects and demonstrations...............	3,975	5,925	5,685	5,050	-
Minority economic development.	1,265	810	928	810	-
Special opportunities counties and cities..................	5,649	3,000	2,875	3,000	-

Summary of Budget Financed from Appropriations (Continued)
(Obligations in thousands of dollars)

		1986		1987	
	1985 Actual	Before G-R-H	After G-R-H	TVA Request	President's Budget
EXPENSES (Continued)					
Industrial skills development.	3,761	3,420	3,285	2,000	-
Tennessee-Tombigbee Waterway..	1,481	1,200	1,153	1,200	-
Total economic resources...........	17,446	15,505	15,046	13,210	-
COMMUNITY RESOURCES					
Townlift.....................	842	-	-	-	-
Community preparedness........	1,253	-	-	-	-
Total community resources...........	2,095	-	-	-	-
AGRICULTURAL RESOURCES DEVELOPMENT					
Innovative research.........	2,840	2,220	2,157	1,770	-
Market development..........	1,101	1,000	940	1,000	-
Preserving farmland productivity..............	1,772	1,916	1,834	4,436	-
Total ARD............	5,713	5,136	4,931	4,436	-
NATIONAL FERTILIZER DEVELOPMENT					
Fertilizer R&D...............	14,564	16,900	16,275	19,300	10,430
Fertilizer technology development					
Process research............	4,109	6,900	6,615	6,880)	9,016
Product research............	1,654	3,900	3,739	4,060)	
Experimental fertilizer production................	7,171	1,805	1,731	1,445	1,189
Total fertilizer technology development.........	12,934	12,605	12,085	12,385	10,205
Ammonia from coal............	6,435	200	200	-	-
Hardwood fuels research.......	4,037	3,400	3,265	3,400	-
Total NFD............	37,970	33,105	31,825	35,085	20,635
GENERAL SERVICES					
Maintenance of bridges ~~on TVA~~ dams........................	516	721	721	609	609
Integrated regional resource management...................	-	129	129	-	-
Assistance to small disadvantaged businesses.............	100	100	100	-	-
Emergency preparedness........	36	58	58	58	58
Other expenses...............	84	537	358	131	-
Total general services............	736	1,545	1,366	798	667
Total expenses.......	114,358	103,,803	99,804	101,585	48,195
Jobs bill (P.L. No. 98-8).....	-67	81	81	-	-
Other credits................	-280	-	-	-	-
Total appropriations.	137,454	125,400	120,928	114,000	58.038

Summary of Budget Financed from Appropriations (Continued)
(Obligations in thousands of dollars)

		1986		1987	
FINANCING	1985 Actual	Before G-R-H	After G-R-H	TVA Request	President's Budget
Appropriations................	125,000	104,000	104,000	114,000	58,038
Deferred appropriation........	-9,000	9,000	9,000	-	-
Unobligated balance brought forward.....................	33,854	12,400	12,400	-	-
Unobligated balance carried forward.....................	-12,400	-	-	-	-
Gramm-Rudman-Hollings reduction (P.L. No. 99-177)..	-	-	-4,472	-	-
Total financing......	137,454	125,400	120,928	114,000	58,038

IMPACTS OF BUDGET REDUCTIONS ON TVA'S AGENDA FOR THE FUTURE OF THE TENNESSEE VALLEY AND THE NATION

The Tennessee Valley Authority faces severe reductions in its appropriations-financed budget for fiscal year 1987. If Congress concurs with the Administration in these proposed reductions, the Tennessee Valley and the Nation stand to lose a valuable national asset and rich returns on a substantial investment that has paid off handsomely in the past and promises to do so in the future. For each major TVA program area, this report identifies those TVA activities which would be eliminated or reduced under the Administration's budget.

The budget program we submitted to the President would forge a new and more dynamic partnership between the Valley and the Nation. TVA's unique role in this partnership is to serve as a national laboratory for demonstrating and transferring practical, widely applicable solutions to energy, economic, and resource problems. This partnership also renews TVA's commitment to act as an agent of positive change--anticipating and adapting to changes in the economy, technology, the condition of our natural resources, and the roles of our public and private institutions.

At stake in the Administration's budget reductions are the very assets, qualifications, and accomplishments that TVA brings to this partnership:

- A major reservoir system and associated lands.
- The world's premiere fertilizer research and development center.
- Progress on a number of promising initiatives in water quality, fertilizer products and processes, soil erosion, and liquid fuels from hardwoods.
- A formidable assembly of expertise.
- Over fifty years of experience in putting the principles of integrated resource development to work.
- A tradition of highly productive working relationships with other public and private partners.
- Proven success in the creation of permanent, private sector jobs that result in economic growth and the reduction of Federal transfer payments.

As a living laboratory, TVA is prepared to work with all its public and private, regional and National partners to continually reshape a mutual agenda as current problems are solved and new needs arise. But only with the understanding and support of Congress can this joint venture fulfill its promise to the residents of the Valley and the American public.

NATURAL RESOURCES

TVA's natural resources program revolves primarily around the exemplary management and use of the largest operationally integrated system of water and related resources in this country. Closely related is an outreach effort to protect and enhance the Valley's natural resources so as to provide a base for economic development and a quality living environment.

TVA takes seriously its stewardship responsibilities for ensuring that these assets serve the needs of the American public in a way that preserves their long-term environmental quality and their economic utility. In so doing TVA strives not only to maximize the benefits of the system, but to offer a living national model of state-of-the-art, integrated resource management. In its outreach efforts, TVA joins forces with the Valley States, other Federal agencies, and the private sector to attack resource issues such as toxic contamination of surface and groundwater supplies, water quality, acid rain effects, wetland protection, forest management, land reclamation, and environmental education.

However, the drastically reduced funding level proposed for fiscal year 1987 seriously compromises the effectiveness of the broader, more integrated approach TVA has traditionally taken and believes is critical to the future Valley-Nation partnership. TVA believes that emerging problems must be identified and acted on long before they exact costly or irreversible consequences.

This includes the long-term, cost-effective maintenance of TVA's dams and structures as the system ages. But support of continued economic growth and prevention or correction of environmental degradation is equally significant. Consequently, the reductions and eliminations in TVA's natural resource initiatives have both obvious and subtle impacts upon future costs and options for local government and the private sector.

Specifically because the ultimate burden for solving most resource problems lies outside the Federal Government, TVA has focused on innovations and demonstrations as the means that enable its Valley partners to successfully assume their own responsibilities. Moreover, TVA does not isolate its responsibilities in the Valley from its Federal mandate. TVA therefore makes a special effort to apply its limited resources to issues that have wide applicability, significant benefit, and timeliness as recognized by leaders and experts across the Nation and abroad.

Water Resources

In Thousands	
TVA Request	President's Budget
$8,001	$3,500

Regional water management activities will continue, but at reduced levels. These include implementation of water quality management plans on two reservoirs, selected water quality improvement efforts, and monitoring of water quality trends in selected TVA reservoirs. Improvements at TVA facilities and tributary sites will be made to increase minimum flows and dissolved oxygen levels in releases from four dams, along with testing at one other site.

Eliminated

- Applications of innovative remote sensing techniques to identify nonpoint pollution from agricultural operations and septic tanks, and to assess reservoir eutrophication.
- Assessments of the biological effects of water quality in tailwaters, and the impacts of acid rain on water quality and fish deformities in eastern reservoirs.
- Demonstrations of the use of artifical wetlands as low-cost wastewater treatment alternatives for rural areas, control of animal waste runoff from 850 sources in one watershed, and aeration technology to control iron and manganese levels in reservoirs.
- Demonstration of local flood damage control through nonstructural methods on tributaries not regulated by the reservoir system.
- Technical assistance to counties and communities in developing groundwater protection and education plans for principal water supply sources for over 60 percent of the region,s people.
- Technical assistance in planning, management, and use of water supply in drought-prone areas and in groundwater.depletion zones.

The elimination of these proposed TVA activities would pose signifiant problems because tributary and groundwater quality directly affects the use and benefits of the reservoir system. TVA's initiatives seek to establish early identification of problems and low-cost control mechanisms. Many of these demonstrations--including improved dissolved oxygen levels, river basin rehabilitation for control of point- and non-point-source water pollution, and the use of artificial wetlands to control domestic and industrial wastes--have already proven to be demonstrations of national importance.

TVA stresses the partnership approach to project work to maximize resources and to transfer capabilities, relying on private business and on local and State government to be the primary implementors of solutions. The integration of TVA skills (remote sensing, land reclamation, air quality management, and others) from across the agency's multiple program areas improves worker effectiveness and targeting of development and demonstrations. This integration is particularly necessary to accomplish the balancing of environmental sensitivity with growth essential for long-term productivity and development.

Although the Administration's budget supports portions of TVA's current initiatives, that support is limited and tentative. Timely and efficient progress in water quality requires sufficient effort to identify problems early and to initiate remedial action at the source of the problem.

Reservoir System Operations

In Thousands	
TVA Request	President's Budget
$24,050	$20,593

The TVA system of 38 multipurpose dams, reservoirs, and associated lands will be managed to provide basic flood control, navigation, and production of hydroelectric power.

Eliminated

- Funding for all recreation areas not located on dam reservations. This will cause 25 campgrounds, 60 informal use areas, 27 boat ramps, and 12 trails to be closed.

Reduced

- Long-term maintenance on support facilities, including roads, visitor buildings, and undeveloped lands.
- Cooperative planning for public and private uses on TVA lands adjacent to TVA reservoirs.
- Maintenance at major navigation facilities and dam structures.
- Monitoring the river system for changing consequences of flooding and flood conditions.

In providing the primary benefits of the TVA reservoir system, i.e., flood control, navigation, and power production, TVA must increasingly contend with other public and private expectations and benefits of the same reservoir system. Elimination of the proposed activities impedes TVA's ability to effectively respond to or manage these broader uses and benefits.

Activities TVA had proposed, but which are not funded, would have facilitated expanded use of the reservoir investment, provided a more cost-effective long-term maintenance program, and provided more benefits from TVA lands and waters to State, local, and private sector uses while protecting future benefits and productivity of the system. Without an adequate long-term maintenance program, TVA facilities may require major renovations or replacement far sooner than would normally be expected.

Land and Forest Resources

In Thousands	
TVA Request	President's Budget
$4,300	$550

Operation of 10 dewatering areas adjoining the main reservoir system in the western Tennessee River watershed will be continued.

Eliminated

- Wildlife and timber management activities on TVA lands and technical support in TVA-State cooperatively managed wildlife areas.
- Development and demonstration of restoration techniques for Valley wildife species, including the cooperative reintroduction of great egrets, osprey, golden eagles, peregrine falcon, and river otters.
- Development of a supply-demand model of industry siting impacts on timber resources.

- Continued availability of integrated forest resource data from State, other Federal, and TVA sources encompassing all Valley region counties.

- Cooperative efforts with State agencies in forest management planning, and technical assistance to the private sector to facilitate adoption of cost-effective, environmentally sensitive timber harvesting methods.

- Identification and acquisition of canoe access sites on tributary streams in the upper watershed.

- Completion of a regional, university-based environmental/energy resource center network supporting local schools with programs to increase environmental understanding through basic skills development activities.

TVA's land and forest activities enable others to assume greater responsibilities in natural resource development or to enhance responsiveness to both environmental and economic interests. TVA's role is to develop and transfer new technology, to identify viable initiatives for independent or joint State, local, and private action, and to turn the concepts of balanced use of the region's resources into practical applications. Activities that have applicability beyond the Valley region are given greatest consideration.

Many of these activities have been of national interest. The Forest Resources Systems Institute recently spun off by TVA, raptor restoration techniques, and the regional university environmental/energy education network are contemporary, nationally recognized models that provide benefits outside the Valley region. These programs have direct relevance to TVA's interest in improving environmental and economic conditions in rural areas of the the Valley and the need to capitalize on opportunities for expanding existing Valley industry and use of the region's natural resource base.

Resource Management and Development Support

In Thousands	
TVA Request	President's Budget
$4,805	$2,250

Mapping services, coordinated with the USGS national mapping program, will continue to produce and revise Valley topographic and metric base maps. Activities also will be continued which ensure that TVA will comply with Federal end State statutes and TVA's own responsibilities for carrying out reviews under Section 26a of the TVA Act. Acid rain research activities will be continued at the level established in coordination with the National Acidic Precipitation Assessment Program (NAPAP).

Eliminated

- All air resource management activities, including a new four-year Valley-wide indoor/outdoor toxic air assessment, technical assistance to regulatory agencies and industry in identifying and resolving air quality problems, and Valley-wide rural ambient air quality monitoring. These monitoring data are the only source in the southeastern U.S. for background levels of regulated pollutants used for research, for regulation, and for economic/industrial development. Three acid rain monitoring stations in the NAPAP National Trend Network will be discontinued.

- Waste management assistance to and demonstrations for local government and industry in waste collection, materials handling and processing, recycling and energy recovery, disposal and systems management. Of particular significance in the Valley region has been this program's work with small industry and farm waste management.

- Programs aimed at reducing hazardous waste generation through public information/education and technical assistance to small-quanity generators of waste to protect both surface and groundwater. Programs established in 1986 with the National Wildlife Federation and technology transfer efforts aimed at hazardous waste professionals would be abandoned.

Reduced

- Consistent with its legal obligations, TVA will reduce the scope of its resource management efforts below the level of its present commitments. For example, activities to identify and protect historic and prehistoric sites on TVA lands will be reduced, increasing the chance for destruction or theft.

The objectives of resource management activities reflect why flexibility is essential for TVA to discharge its responsibilities. Air quality monitoring, acid rain assessment, waste management, remote sensing, and mapping applications are not independent ends themselves. They represent problem areas and technologies that are crucial to the Valley region and the Nation. They are also areas where even greater emphasis is placed on seeking cooperative approaches to solutions with national impact. This attitude has resulted in TVA becoming a national leader in developing cost-effective toxic monitoring technology, a unique supplier of regionwide air quality baseline data, a catalyst in creating a Valley-wide industrial hazardous waste exchange, an innovator in remote sensing applications, and a credible local researcher in acid rain issues.

Land Between the Lakes

In Thousands	
TVA Request	President's Budget
$6,900	-

No funding is provided to continue LBL programs, maintenance, or alternative operations.

Eliminated

- All functions associated with the management of 170,000 acres of Federal land, including highway and facilities maintenance, land and wildlife management, visitor recreation and environmental education programs, hunting, and fishing.

LBL presently receives more than two million visitors annually, focusing on the recreation needs of residents throughout mid-America, and the need of educators and researchers nationwide for an alternative to conventional State, Federal, and private outdoor facilities. Last year, in fact, LBL received visitors from all 50 States and from 20 foreign countries. in size and geographical uniqueness and in its commitment to multipurpose operating principles, LBL stands apart from other facilities attracting research and training with other Federal agencies, universities, and national recreation development institutes.

Activities at LBL reflect this in their diversity--from The Homeplace living history farm to an innovative off-road vehicle use area; from a multiagency tick control research project to the relocation to LBL of Eagle Trust (a nonprofit foundation committed to reintroduction of the American bald eagle); from the implementation of new hunter use fees to demonstration of a "silent" alarm for LBL vehicles to warn approaching deer--and by increasing the diversity and number of sport and observation wildlife, while at the same time increasing the volume of harvested commerical timber and acres returned to farmland.

It has to be recognized that there is little incentive for either of the States in which LBL is located to assume operation of LBL as they both maintain State parks in the vicinity and have no commitments to recreation research or to being a national education and resource management demonstration. If one or more States did agree to operate LBL for only one of its three primary purposes, as is typical of most other large public areas, it would mean the loss of many current benefits and an even greater loss in the goal of increasing multiple uses of other State, local, and Federal lands.

ECONOMIC RESOURCES

In Thousands	
TVA Request	President's Budget
$13,210	-

TVA's economic resources programs maintain and expand permanent private sector jobs and help create new higher paying jobs in the Valley's changing economy. The premise of these efforts has been to build economic self-sufficiency by capitalizing on the region's human and natural resources, thereby reducing the need for Federal transfer payments to the Valley's economically depressed--especially those in rural areas.

In all these programs TVA has worked with others in the private sector and at the local, State, and Federal levels to attack stubborn economic problems and to anticipate needs and opportunities that are emerging as the Nation's economy evolves. TVA strives to find or develop state-of-the-art solutions to Valley issues that at the same time serve as demonstrations to other States and communities across the Nation who are experiencing similar economic development challenges. TVA's assistance is principally of a technical or educational nature and thereby avoids building dependence on direct financial aid from Federal sources.

The Administration's fiscal year 1987 budget would terminate all TVA's economic resource programs.

Eliminated

- o Technical assistance to State and local government and industry to expand commercial navigation, create growth in the 50 most economically deprived counties of the Valley region, increase minority business participation, and expand nonmanufacturing service sector job opportunities.

- o The existing industries program, which recognizes the importance of already established businesses in producing new, permanent jobs and which has been accepted and emulated by business, utility, and community leaders across the Nation.

- o Skills training programs such as the one at Chattanooga State Technical College, with which TVA pioneered new computerized techniques for upgrading worker skills, thus making manufacturing more productive and more competitive in the face of lower cost foreign imports. This program has been replicated outside the Valley, as has another skills initiative to develop basic and advanced industrial skills training programs in schools and industry in collaboration with local communities and the private sector.

- o A program initiated in 1986 to create jobs in small rural communities. As a reaut of this cooperative effort between the State, community-based organizations, and TVA, approaches tested and demonstrated by the project will be transferred to other areas by the U.S. Department of Agriculture, the National Association of Development Organizations, and the National Association of Towns and Townships.

AGRICULTURAL RESOURCES DEVELOPMENT

In Thousands	
TVA Request	President's Budget
$4,436	-

The Tennessee Valley is predominately rural, and farming is a way of life for many of the region's residents. The Valley's farmers face a number of challenges, some brought on by changes in the economy, others by changes in technology. TVA has been a partner with these farmers, the region's land-grant universities, and other State and local organizations to help keep farming a viable enterprise, a continued source of employment, and a solid contributor to the Valley and the national economy. At the same time, TVA has been anxious to share new approaches to resource and economic problems that farmers across the Nation experience.

Under the Administration's budget proposal for fiscal year 1987, this program is terminated.

Eliminated

o Cooperative work on several critical and interrelated problems, such as market development, farm manaegement, new enterprises, and soil erosion. Withdrawal of TVA technical and financial resources would strike a serious blow to this work, our partners, the farmers' future livelihood, and the farmers around the country who could also benefit from techniques demonstrated in the Valley.

To be a viable part of the economy, the region's economically depressed small farmers need to improve the efficiency of their operations and at the same time adopt new income-generating enterprises. Elimination of the program to develop and introduce innovations here would foreclose an opportunity to boost agricultural productivity and to stimulate adoption of these innovations in other regions of the country where farmers face similar problems adjusting to changing economic conditions.

Also lost would be an important adjunct to improved operations and nontraditional enterprises--improved marketing systems and opportunities that would help farmers compete more effectively in the marketplace.

Another significant loss, both to the Valley and to the Nation, would be our cooperative soil erosion control and water quality improvement programs. The loss of valuable topsoil and resulting water pollution has been a high economic and environmental priority, and considerable progress has been made in saving soil and improving water quality. Moreover, the Land and Water 201 program is recognized as a highly effective model of innovative multiagency cooperation. Loss of TVA as a valuable partner would be felt not only in the Tennessee Valley but in the Nation's soil and water conservation programs as well.

NATIONAL FERTILIZER DEVELOPMENT

TVA is the world's undisputed leader in fertilizer research and development. In the past half-century, TVA has been responsible for 75 percent of the fertilizer technology used today. With fertilizer accounting for at least 40 percent of agricultural production, the U.S. has been able to grow an abundance of food and fiber for its own people as well as for export. TVA's National Fertilizer Development Center is the centerpiece of a highly successful Federal-State-private sector partnership that combines research, development, and commercialization of affordable, effective, energy-efficient, and environmentally sound fertilizer processes and products.

The program is geared to adapt to change--whether in the economy, resource availability, or public policy--and to accelerate positive change in industry and farming practices. Accordingly, TVA's research program will continue to develop efficient techniques to recover and process lower grade indigenous phosphate ores. It will make production of both conventional and new fertilizer materials more energy efficient, less polluting, and economically viable. Another research priority is to ensure that fertilizers are compatible with diverse agronomic needs and farming practices. TVA will also continue research on improving efficient crop use of fertilizer nutrients, especially costly to produce nitrogen. Finally, to promote and accelerate the transfer of research results, TVA will continue its longstanding and productive working relationship with industry firms to test the agronomic and engineering qualities of experimental products and to produce sufficient amounts of the new products to create and evaluate market acceptance.

It is important to note that TVA's program also reflects responsiveness to the recommendations of the President's Private Sector Survey on Cost Control. TVA is making every effort to identify the kinds of services which private industry would be willing to pay for and to seek joint ventures with private firms for final development of certain technologies. A prime example is a cooperative project with the Florida Institute of Phosphate Research and the W. R. Grace & Company, whereby a portable process unit will be constructed and used to demonstrate new TVA technologies for recovering lower grade phosphate.

The Administration's budget for fiscal year 1987 supports to some extent these directions in the national fertilizer development program, but imposes a number of constraints and setbacks in moving new products and processes quickly into use. Ironically, the cutbacks make it difficult to secure the very cost-sharing arrangements which the Administration favors and which, in turn, would bring in revenues that would speed promising research initiatives to their fruition. The adverse impacts of the Administration cuts would be felt in all facets of NFDC's work.

Research and Development

In Thousands	
TVA Request	President's Budget
$19,300	$10,430

The Administration's budget provides reduced levels of funding for research on nutrient efficiency, fertilizer raw materials, basic fluid and granular fertilizers, and the implications for fertilizers of changing agricultural practices.

Eliminated

- Waste recovery. A variety of industrial wastes may be used directly or processed for use as fertilizers or soil amendments, thereby providing an economical waste disposal system. However, research is urgently needed to determine both the agronomic benefits and potential hazards to the food chain of using these materials in agriculture.
- Organic fertilization for production of fish and shrimp. Development of production systems for fish (tilapia) and freshwater shrimp in farm ponds fertilized with organic wastes (e.g., animal manures) offers both a solution to onfarm waste management problems and an added source of income to troubled farmers.

Reduced

- Fertilizer development for use with reduced tillage agriculture. Although USDA and others are active in developing reduced tillage systems, they do not develop fertilizer materials and application techniques to these systems. Conventional fertilizers and application techniques often do not fit reduced tillage.

- Fertilizer development for irrigation. Research on applying fertilizers with irrigation water (fertigation) is urgently needed because conventional fertilizers often clog irrigation systems.

- Environmental impacts of agricultural practices. Research is desperately needed to develop fertilizers which reduce soil erosion and nutrient runoff, and promote percolation into surface and ground waters.

- Work to enhance the use of domestic phosphate supplies, to improve the efficient use of plant nutrients (especially nitrogen) by crops, and to find a substitute for formaldehyde as an anticaking agent for urea production.

- Phosphate research. Now that the Nation's high-grade phosphate ore deposits have almost been exhausted, new cost- and energy-efficient ways to recover phosphate from low-grade native ore are essential if U.S. fertilizer producers are to maintain independence from costly imported supplies. TVA research on ore beneficiation technologies and on the related hemihydrate technology for producing concentrated phosphoric acid is promising, but it requires a greater level of sustained support for further testing and eventual adoption.

- Nitrogen efficiency research. Millions of dollars worth of nitrogen fertilizer are applied each year in the United States but never used by crops; much of it is lost or transformed into forms the plants cannot use. As a result, yields suffer, the potential for groundwater contamination increases, and large, costly amounts of natural gas used to produce nitrogen fertilizers are wasted. The Administration's proposed funding level would restrict work on nitrification inhibitors, urease inhibitors, and acidic fertilizers to laboratory and greenhouse studies. Vital field verification of these promising solutions to nitrogen loss would not be done or would be done below minimum acceptable levels.

Technology Development

In Thousands	
TVA Request	President's Budget
$12,385	$10,205

The 1987 budget would scale back the product and process testing that is essential to completing the development of improved technologies and moving them quickly into commercial production and farm use.

Reduced

- Industry testing of a new TVA-developed curtain granulation process which not only produces more effective nitrogen fertilizer pellets, but is also much more energy efficient than existing manufacturing techniques.

- Field evaluations of new products, such as newly developed nitrogen-efficient fertilizers.

- Production of experimental fertilizers, especially the energy-efficient phosphate products. Reductions and eliminations here would cut out a significant number of manufacturers, distributors, and dealers who cooperate with TVA in using new technologies to promote market acceptance of these experimental fertilizers among farmers across the Nation.

Hardwood Fuels Research

In Thousands	
TVA Request	President's Budget
$3,400	-

Termination of funding for hardwood fuels research would be a significant setback for both the Valley and the Nation. With zero funding, the research and development momentum established in recent years would be lost and a two-ton-per-day experimental unit abandoned before taxpayers received any tangible return on their investment.

The technology for converting hardwood biomass to ethanol is approaching commercial viability. Not only does this technology offer an energy alternative that would free the U.S. from almost complete dependence on imported oil supplies and could possibly serve as a deterrent to an oil embargo. It would also make economic use of a plentiful renewable resource found in the Valley and other parts of the country, creating as a result a number of jobs in both the forest and the agricultural industries.

SPECIFIC PROGRAMS TO BE TERMINATED

Chairman HATFIELD. I think, fundamentally, this committee is really involved with something more profound than a question of budget allocations or levels of spending. Because as I go over the President's proposed budget and see what has been excised, it becomes obvious that the total level of funding is really kind of a first step to abandonment of the Federal role in TVA; at least this is how I interpret it. Because the moneys saved are not that significant. I think we fundamentally have a philosophical question of what the Federal Government's role should be in all kinds of enterprises.

I go through this, and I see it is very obvious that in the area of natural and land resources, and economic resources, there is no intended Federal role to be pursued. The proposed budget would terminate, excise such programs as fishery resources; flood plain management. They excise forest resources, recreation resources, environmental energy education, regional air quality management, waste management, and activities at Land-Between-The-Lakes, which I understand produces more than $100 million in economic generated capacity in that area. It generates jobs, income, and so forth for about a $5 to $10 million investment, which is a pretty good ratio.

The budget would excise all economic and community resource work—the navigation development, the economic projects and demonstrations, minority economic development, special opportunities for counties and cities, industrial skills development, and Tennessee-Tombigbee Waterway related activities. They excise the entire agricultural resources development effort—the Innovative Research Program;

the Market Development Program, and preservation of farmland producitivity. Hardwood fuels research would be terminated, along with the integrated regional resource management and the assistance to small, disadvantaged business efforts.

So, in the final analysis, the budget program is a reduction of $67 million from the fiscal year 1986 pre-Gramm-Rudman program level, $67 million in the name of economy, which would, in effect, cripple TVA operations. At the same time, without a great deal of hesitation, they boldly come before the Congress in this administration and before the American people and ask us to transfer or reprogram $70 million for lethal aid to overthrow the Sandinista Government. That is only one comparison or analogy I can make—cut $67 million and cripple an operation which benefits people in this country and then spend $70 million to try to cripple a government that they don't particularly care for.

Well, I would say that the batting average on both of these should be .000, because as far as I am concerned, we are not going to cripple TVA, and as far as they want to go, and we are not going to lead the world in trying to overthrow governments. But that is only the view of this Senator.

Senator STENNIS. That is a big one, though. [Laughter.]

Senator SASSER. I just want to associate myself 100 percent with your remarks, Mr. Chairman. [Laughter.]

Mr. DEAN. If it has to be one person's view, sir, I am delighted it was yours. [Laughter.]

Senator SASSER. I would say that the chairman of the Senate Appropriations Committee is more than just one person and has the weight of more than just one Senator's views.

Chairman HATFIELD. And you have gotten my attention by starting with BPA in your questioning on the power marketing administration. [Laughter.]

ADDITIONAL SUBMITTED QUESTIONS FOR THE RECORD

Gentlemen, we appreciate very much your testimony. There will be a number of questions submitted to you for response. We wish you well.

Mr. DEAN. Thank you for your time, Senator.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY CHAIRMAN HATFIELD

Agency Morale Problems

Question: Back in 1947 John Gunther wrote "Inside U.S.A." in which he stated, "The greatest thing about TVA is . . . the factor of morale. Never in the United States or abroad have I encountered anything more striking than the faith its men have in their work." How would you assess the morale within TVA today?

Answer: TVA is a very large organization with a very diverse set of programs, and individuals and circumstances associated with those programs. TVA's morale reflects that diversity.

In the past couple of years we have seen our employment shrink from some 52,000 to less than 30,000. TVA's appropriated budget has been repeatedly threatened with severe reductions. The nuclear program has also suffered serious reverses. These factors cannot help but take a toll on the morale of the employees associated with those programs.

But there are other programs that are functioning very well. The fossil and hydro system is among the most efficient in the Nation, and the fertilizer program continues to contribute to the well-being of the Nation and the world through advances in fertilizer products and processes. In these areas, for instance, morale is still very good.

TVA is taking steps to improve morale. For example, an agencywide recognition awards program is being implemented. Individual career planning is being carried out for all key management employees. A new merit pay program is being implemented for managers and nonmanagers. We have organized employee forums to help identify problems and determine effective answers. Improved communication with employees is a priority for all TVA managers, beginning with the Board and the General Manager. Finally, as the employment level stabilizes and as recent problems with the nuclear program are resolved, there will be a better opportunity to capture and retain the old "TVA spirit" among all employees.

Question: Can the internal problems at TVA be corrected without improving the morale situation?

Answer: The two actually go hand in hand. The steps we have taken to correct the problems at TVA have already had a positive impact on morale.

Question: Setting aside the creation of an Inspector General and Nuclear Czar, what can you, as Directors of TVA, do to recreate the atmosphere of faith and belief that appears to have slipped away over the past few years?

Answer: It is the Board's responsibility to provide the leadership necessary to allow all of TVA's employees to feel that they are valuable to the agency, the region, and the Nation; and that, to the extent they are performing their jobs well, they have a future with TVA that allows them personal and professional growth. Personal and professional recognition is a key ingredient in all solutions to the "morale problem." Furthermore, it is the Board's responsibility to provide the resources and management structure that will allow TVA's employees to carry out their responsibilities in an efficient and effective manner.

Question: One of TVA's strengths, since its creation in 1933, has been the quality of the people serving the agency. Again, John Gunther, in explaining the faith of TVA people, listed the following factor:

> Above all, the nature of the job. People are happy because they are doing something creative, something bigger than themselves. You cannot legislate morale; you cannot impose from above the kind of loyalty TVA gets from almost every worker."

Realizing that you cannot impose such basic feelings, how do we get back the strong morale, creativity, and loyalty that has been at the core of TVA since the start?

Answer: In addition to the comments and responses to earlier questions, it must also be recognized that part of the answer to this question lies outside the Board's purview. Much has changed in the world at large since TVA was created. TVA suffers, to a certain extent, from this change, as do many other governmental and private sector entities.

Government agencies and large private bureaucracies in general are often not highly regarded. In addition, changes in the energy production business due to increased prices, technological setbacks, and environmental damage have all affected the public's opinion of electric utilities generally.

Most TVA managers and employees realize that we are conducting important work and they are anxious to demonstrate the validity of the original TVA mission in today's environment. Given time and resources, TVA will restore the public's confidence. The increased loyalty and creativity of its employees will go hand in hand with these achievements.

Question: How do you respond to the continuing charges of employee intimidation and harassment, particularly in the nuclear power program?

Answer: The Board on its own initiative adopted a formal policy in 1980 that encourages employees to state their views to management. The parallel to this part of the policy is the stated assurance that intimidation or harassment will not be countenanced. Our employees have been informed of the policy in a number of ways, and employees found by our own investigations to have engaged in intimidation or harassment have been terminated and other lesser actions taken. We think that the force of this policy has now permeated the ranks of management and future such acts will be minimized. Only a few of the charges made have actually been valid, but the number made is itself a problem. We similarly think that our fair but consistent enforcement of the policy will also result in a decreased number of charges.

Question: How will the creation of an Office of Inspector General and hiring a "Nuclear Czar" help with morale and loyalty? Will these offices be the "iron fist or steel boot" in dealing with employee concerns?

Answer: Morale and loyalty are created and furthered by the confidence employees have in their managers and by the capability managers have in conveying to employees a management regard for employees. The proper performance of these jobs by the incumbent can further TVA's efforts.

These offices will have, as other TVA offices, a responsibility for implementing the policy described in the answer to the previous question. Our actions must be consistent and firm, but fair. We cannot improve the implementation of our policy or morale by creating a bullying policy.

Office of Inspector General

Question: Update the Committee on the new Office of Inspector General which you recently established. How independent will the IG be? What powers and authority will he have?

Answer: The IG will operate totally independently, reporting to the TVA Board of Directors and Congress. He does not report to, nor is he subject to supervision by, any other officer in TVA.

The IG serves as an independent objective officer within TVA responsible for auditing and investigating programs and operations to:

- o Promote economy, efficiency, and effectiveness in the administration of the programs and operations.
- o Prevent and detect fraud, waste, and abuse in the programs and operations.
- o Manage and direct all investigations into allegations of criminal conduct involving TVA programs.
- o Manage and direct all investigations into allegations that TVA employees violated the agency's conduct regulations.
  - Investigate allegations of intimidation, harassment, and abuse.
  - Determine audit priorities, structures, criteria, scope, and frequency of audits.
  - Conduct life cycle auditing of major ADP systems.
  - Apply computerized audit techniques in an effort to identify trends or irregularities in rate structure contracts, cost accounting, and other administrative processes.
  - Provide a means for keeping the TVA Board of Directors and Congress fully and currently informed about problems and deficiencies relating to TVA programs and operations.

Question: How is the new IG office different from the old Office of Audit and Evaluation?

Answer: The new IG's office is an independent unit within TVA which has broader auditing responsibilities than the old Office of Audit and Evaluation (OA&E) and investigative responsibilities which the OA&E did not have. More specific differences between these two groups are set forth below:

- o OIG is independent, responsible to the Board of Directors, and can report directly to Congress. Manager of OA&E was responsible to the General Manager and the Board of Directors.
- o OIG is responsible for planning, directing, and managing special inspections and evaluations involving the integrated efforts of investigations and audit. OA&E had limited investigative responsibilities.
- o OIG is responsible for designing and directing professional developmental programs to ensure both auditors and investigators understand their similar, different, and complementing objectives, skills, and methods. OA&E had no investigators assigned to its unit.

- OIG coordinates referrals on audit-found irregularities with the U.S. Attorney's Office and other law enforcement agencies. Previously, OA&E did not have responsibility for coordination with law enforcement authorities.

- OIG will manage and direct all investigations into allegations of criminal conduct involving TVA programs as well as into allegations that TVA employees violated the agency's Code of Conduct. OA&E did not have this responsibility.

- OIG will promote economy, efficiency, and effectiveness in the administration of TVA programs through formal program reviews conducted by a combined audit and investigative staff. OA&E did some program evaluations in conjunction with the Corporate Industrial Engineering Branch which was assigned to the OA&E.

- OIG investigates allegations of intimidation, harassment, and abuse. OA&E did not have these responsibilities.

- OIG will conduct life cycle auditing of major ADP systems. OA&E did not utilize this procedure.

Question: How will this office be funded? What control will the IG have over his budget and personnel resources?

Answer: The Office of Inspector General (OIG) is considered corporate administrative expense to be funded as administrative and general (A&G) expense.

The Inspector General establishes the OIG budget of office expenditures and personnel resources each fiscal year based on needs to fulfill responsibility areas. This budget will be separate and independent from that of all other TVA organizations.

Question: How will the IG's budgetary need be reviewed and approved?

Answer: The OIG's plan and budget will be prepared annually in sequence with TVA's overall budget. The OIG's budget is subject to review and approval by the TVA Board of Directors as are all TVA plans and budgets.

Nuclear Power Program

Question: Is TVA capable of managing and operating a nuclear power program given the morale and institutional problems?

Answer: Yes, TVA is capable of correcting the current problems and effectively managing and operating the nuclear power program. TVA has reviewed the problems which have developed in its nuclear program during recent years in order to identify the causes of these problems. As a result of this review, TVA has formed judgments regarding the root causes of the problems in its nuclear program. In order to confirm this judgment, TVA assembled a team of senior, experienced industry advisors to analyze more than 800 documents which contained criticisms of TVA's nuclear activities and to identify any adverse trends and their root causes. In general, the results of this analysis agreed with the judgments formed by TVA regarding the source of the problems in TVA's nuclear program. Although the individual problems are varied, many of them stem from the same cause—namely, a lack of a sufficient number of experienced managers who can provide leadership and proper direction to ensure the safe construction and operation of TVA's nuclear plants.

TVA has taken, and is planning to take, actions to provide effective management of its nuclear program and to restore employee trust in TVA's nuclear management. In general, this action consists of the following:

- TVA will provide effective management of its nuclear activities through the hiring, development, and retention of experienced nuclear managers.
- TVA is restructuring its nuclear organization to clarify lines of authority and responsibility (including providing position descriptions) and to provide centralized direction and control of its nuclear activities.
- TVA is taking steps to restore employee trust in its nuclear management.
- In order to facilitate effective management and control of its nuclear activities, TVA has been and will be implementing changes in the manner in which its nuclear activities have been managed. These changes include increasing upper management awareness and involvement in TVA's nuclear activities and improving TVA's nuclear management systems and controls.

TVA's most pressing problem is to improve its nuclear management. We are currently strengthening key management positions throughout TVA's nuclear organization and making a number of organizational changes to address the lack of commitment to and responsibility for achieving excellence in performance. A number of technical/professional managers from outside contractors, each of whom possesses considerable experience in his/her field and a proven ability to motivate individuals to perform up to their capabilities and assume responsibility for the quality of their activities, have been brought into TVA's nuclear organization. They have been assigned key management positions--not as advisors but as line managers. They are committed by their parent organizations for a two-year assignment to TVA. At the same time, we are attempting to identify a permanent TVA manager to work in a line position under each new manager so that the permanent TVA manager can learn and be capable of assuming the top position prior to the end of the two-year period.

Not every managerial position will be filled with managers from outside contractors. There are a number of TVA people who have demonstrated their capability to handle the task at hand, and will be accordingly used. It is TVA's position that once these key people are in place, the multitude of problems facing us will be addressed and resolved in a reasonable time. We are also convinced that once there is demonstrated leadership coming out of management, the personnel at all levels and at all sites will respond.

Additionally, TVA plans to take several steps which are directly intended to restore employee trust in TVA nuclear management and to instill an atmosphere which is conducive to quality. In general, these steps consist of (1) establishing a system in which employees can express quality concerns to TVA's nuclear management without fear of reprisal and with assurance that their concerns will be fully addressed, and (2) establishing a policy which promotes quality, ensuring that TVA's employees are aware of this policy, and taking disciplinary action against those who act contrary to this policy.

Question: Are you cooperating fully with the Nuclear Regulatory Commission in its review and investigation of your operation?

Answer: Yes. On September 17, 1985, pursuant to 10 CFR 50.54 (f), the Nuclear Regulatory Commission (NRC) requested the Tennessee Valley Authority (TVA) to furnish information related to problems which had developed at its nuclear power plants. Among other things, the NRC identified an area of concern regarding "programmatic and management deficiencies that have contributed to the continued poor direction and of control of [TVA's] nuclear activities," and the NRC requested TVA to describe corrective actions in this general area. In compliance with this request, TVA presented a Corporate Nuclear Performance Plan (NPP) to the NRC on November 1, 1985.

Since submission of the Corporate NPP, TVA has made significant changes in its nuclear management personnel, including bringing aboard a new Manager of Nuclear Power, Mr. Steven A. White. On January 7, 1986, Mr. White committed to the NRC to evaluate the TVA nuclear program problems and lay out an action plan for solutions. The TVA Board of Directors and senior nuclear program managers met with the NRC commissioners on March 11, 1986, to detail the revised Corporate NPP. The NRC commissioners received the revised Corporate NPP very positively and were pleased with the presentation and responses to their specific questions. TVA senior nuclear program managers have been instructed to cooperate fully, truthfully, and expeditiously with the NRC. In summary, TVA will cooperate fully with the NRC in its review and investigation of our nuclear program operations.

Question: What has been the daily cost of replacement power?

Answer: The best estimate of this cost is $550,000 per day. The cost impact from having the five nuclear units out of service is the higher cost of coal used to replace the lost generation from the nuclear units. The operation of nuclear units requires that they be shut down periodically for refueling and maintenance. Thus, considering the time that nuclear units are normally available, the estimated cost is about $550,000 per day.

Question: How have you been able to meet the replacement power with Browns Ferry and Sequoyah not operating?

Answer: We have come through the winter with ample power and through the worst of it with only minor peak shaving. Most of the generation shortfall from the nuclear plants has been replaced by additional generation from our coal-fired plants, supplemented with economy purchases from other power suppliers at very good prices throughout the winter. The coal-fired generation for the ten-month period ending January 1986 was about 14,000 MWh (25 percent) greater than the same period a year ago.

Question: Does TVA have sufficient capacity to meet its average peak demand without Browns Ferry and Sequoyah?

Answer: Since the nuclear plant shutdowns, ample capacity has been available to meet the TVA net system load. Even during periods when extreme peak conditions have occurred and all units have not been available, TVA has utilized its transmission system to import power at prices more economical than some of its more expensive internal resources.
Looking forward to 1986 summer peak conditions, TVA expects to have ample capacity during normal peak conditions without nuclear generation. It is anticipated that ample power will continue to be available from external sources should it be needed during extreme temperature conditions this summer.

New Nuclear Program Chief

Question: Can you explain in more detail TVA's relationship with this individual?

Answer: TVA's relationship with the new Manager of Nuclear Power is described in the attached Memorandum of Understanding.

MEMORANDUM OF UNDERSTANDING

This MEMORANDUM OF UNDERSTANDING, dated January 3, 1986, is between the Board of Directors of the Tennessee Valley Authority, having a principal place of business at 400 West Summit Hill Drive, Knoxville, Tennessee 37902, (TVA) and Steven A. White, 119 Chestnut Ridge Road, Charlottesville, Virginia 22901.

WHEREAS, the Board of Directors has created the Office of Nuclear Power to perform the activities relating to the TVA nuclear power program and has designated Steven A. White as Manager of Nuclear Power and Mr. White has agreed to serve in such a position;

WHEREAS, the Board of Directors has established and Mr. White has accepted as the objectives of this arrangement to provide TVA with management capability so that at the end of the two-year period TVA's nuclear power program will be improved and TVA will have enhanced capability to manage the program with permanent TVA personnel; and

WHEREAS, the parties desire to confirm their agreements concerning the manner in which the position of Manager of Nuclear Power shall be filled and the authority and responsibilities associated with said position.

NOW, THEREFORE, the parties agree as follows:

1. TVA has entered into a Loan Agreement with Stone & Webster Engineering Corporation (the Loan Agreement) dated as of the date hereof whereby the services of Steven A. White and certain other personnel are made available to TVA and Mr. White is designated to fill the position of Manager of Nuclear Power.

2. The Manager of Nuclear Power will have dir authority and responsibility for the management, control and supervision of TVA's entire nuclear power program, including but not limited to, the design, construction, maintenance and operation of all existing or planned TVA nuclear power plants. The Manager of Nuclear Power shall have the authority to establish management and operating policies and procedures related to TVA's nuclear power program. The Manager of Nuclear Power shall also have the authority to hire, remove, assign, reassign, or direct any personnel supplied by outside contractors, and subject to the approval of the Board of Directors with respect to senior level TVA managers in accordance with existing reservation of authorities by the TVA Board, any TVA personnel engaged in nuclear power program activities as he may deem necessary or desirable to implement such policies or procedures. Recognizing that the nuclear power program is an essential part of an integrated power system and TVA's regional agency efforts, the Manager of Nuclear Power shall coordinate the activities and functions of the Office of Nuclear Power with those of other TVA offices. Using existing TVA organizations and systems as appropriate, the Manager of Nuclear Power shall be responsible for all personnel, planning, scheduling, regulatory, licensing, engineering, construction, operational, quality assurance, training, maintenance, and other technical or administrative matters relating to the TVA nuclear power program and shall have the authority to review and approve, and subject to the approval of the General Manager and the Board of Directors, redirect and/or restructure the activities and functions of an existing TVA office in these areas insofar as they pertain to clear power program. The Manager of Nuclear Power shal

be TVA's principal spokesman on public information matters, using TVA's Information Office to facilitate the dissemination of information to the public in keeping with TVA's existing policies of providing information to the public openly, promptly, and accurately on all nuclear power matters. The Manager of Nuclear Power shall be the primary line manager with responsibility to determine the need for, requisition, technically evaluate, and receive all materials and services required for the nuclear power program. The Division of Purchasing, which is a TVA service organization, will continue to serve the Office of Nuclear Power on all such matters; but upon review, the Manager of Nuclear Power shall have the authority, with the approval of the General Manager and Board ectors, to redirect and/or restructure the acti functions of that division as they pertain to the nuclear power program. The Manager of Nuclear Power shall have direct responsibility for providing nuclear power program budget and financial information to the General Manager and Board and for developing and recommending nuclear power program budgets for Board approval. The Manager of Nuclear Power is authorized and directed to cooperate fully with the United States Nuclear Regulatory Commission and any other agency or entity, governmental or otherwise, with jurisdiction over or interest in TVA's nuclear power program to assure the safe, reliable and efficient design, construction, operation, and maintenance of TVA's nuclear facilities, and shall be responsible for all aspects of TVA's relations with such agencies and entities.

3. The Manager of Nuclear Power shall have direct access to the TVA Board of Directors and shall report directl to the General Manager and the Board of Directors. The Manag of Nuclear Power may be removed only by the Board of

Directors. The responsibilities and functions of the Nuclear Advisor to the TVA Board shall be subsumed within the Office of Nuclear Power. With the exception of the Inspector General and General Counsel functions, all internal TVA activities or functions and/or outside contractors currently reporting to the TVA Board with respect to the TVA nuclear power program shall report to the Manager of Nuclear Power. Within sixty (60) days an outside, independent nuclear safety review group will be established to report to the TVA Board. The Nuclear Safety Review Staff will be assigned to the Manager of Nuclear Power. The Manager of Nuclear Power shall be authorized to contract for such personnel services as he shall deem necessary to support the TVA nuclear power program or the functions of the Office of Nuclear Power. In addition to the specific powers described herein, the Manager of Nuclear Power is authorized to undertake or have the appropriate TVA office or outside contractor(s) undertake, such studies, activities, or programs he deems necessary to improve the safety, reliability, or efficiency of TVA nuclear facilities and to take any other actions that he deems necessary or appropriate to improve the effectiveness of the overall management of TVA's nuclear power program and carry out the purposes of this Memorandum of Understanding.

4. TVA shall provide the Manager of Nuclear Power with all of the technical, managerial, administrative, and clerical support staff, office space, office services, equipment, transportation and other resources and support services which said Manager deems necessary or appropriate to carry out the function of his office.

5. The foregoing authorities and responsibilities of the Manager of Nuclear Power shall be subject to the reservations of authority in the TVA Code to the General

Manager and the Board of Directors. As Manager of Nuclear Power, Mr. White will be subject to all applicable TVA rules and procedures covering TVA employees, including specifically the regulations and other requirements on employee conduct, conflicts, and ethics.

6. Both parties hereto understand and agree that Mr. White is an employee and principal owner of the STEMAR Corporation and that the services of Mr. White, and up to five (5) additional personnel, are being provided to TVA under the Loan Agreement through a separate agreement between the Stone & Webster Engineering Corporation (SWEC) and STEMAR. The Board of Directors has examined the existing relationship between STEMAR and SWEC and has determined that Mr. White's interests in STEMAR and STEMAR's contractual relations with SWEC are not so substantial as to be deemed likely to affect the integrity of the services which TVA expects from Mr. White, and that Mr. White shall therefore not be precluded from exercising the full extent of his authorities and responsibilities as Manager of Nuclear Power with respect to the existing contracts between SWEC and TVA, including the Loan Agreement and the Contract for Management and Support Services dated as of the date hereof.

7. The parties understand and agree that the contractual aspects of the relationship between TVA and the Manager of Nuclear Power shall be governed by the terms and [illegible]tions set forth in the [illegible] greement.

IN WITNESS WHERE[illegible] en A. White, and wi[illegible] approval and at the direct[illegible] he Board of Directors, TVA's

General Manager have executed this Memorandum of Understanding as evidenced by their respective signatures:

General Manager
Tennessee Valley Authority

Steven A. White
Steven A. White

Approved by the individual members of the TVA Board:

1/3/86

1/3

1/3/86

Question: Can you provide detailed information on the STEMAR Corporation?

Answer: STEMAR is a subcontractor to Stone & Webster. Mr. White is an employee and the principal owner of STEMAR, which among other things is engaged in the business of engineering consulting. Under the contract between TVA and Stone & Webster, STEMAR may provide up to five specialists, at rates to be approved by the TVA General Manager, and may add a markup to cover STEMAR's administrative costs in providing these personnel at an amount not to exceed 10 percent. At this writing, it appears that the actual reimbursement will not exceed 2 percent. STEMAR will not make a profit on any personnel furnished under this contract. There is no additional Stone & Webster markup on any of these costs.

Question: What is the relationship between TVA, Stone & Webster, and the STEMAR Corporation?

Answer: Stone & Webster Engineering Corporation (SWEC) is a TVA contractor. STEMAR Corporation is a contractor to SWEC providing services to TVA, which places it in a subcontractor role. At the time of our first contact with SWEC on this matter, STEMAR was and still is under contract to SWEC. SWEC agreed to make Mr. White's services available to TVA, along with the services of up to 12 other key management individuals (including the 5 mentioned in our response to Question 25) for a period of up to two years. The TVA Board, Mr. White, and SWEC management recognized that TVA's immediate technical and management needs extended well beyond a single person. In short, given the magnitude of the problems, we urgently needed a cadre of top-level technical and management talent with the requisite experience, capability, reputation, and integrity to put TVA's nuclear program back on track as quickly as possible.

Question: How does hiring someone through a major nuclear contractor help restore confidence and creditability to your nuclear programs?

Answer: The new Manager of Nuclear Power needed immediate access to a large number of highly qualified individuals who could identify and start solving the major problems in the nuclear power program. The agreement with Stone & Webster provided needed instant access to the type of people required to sort out TVA's nuclear power program problems. In addition to the contract with Stone & Webster, TVA has or is negotiating similar contracts with companies such as Bechtel Engineering, General Electric, and Management Analysis Corporation, Westinghouse Electric, etc., to provide additional access to highly qualified individuals.

The qualifications and past achievements of our new Manager of Nuclear Power, along with the reputation and credibility of our contractors, have already helped restore the confidence of the Nuclear Regulatory Commission, the public, and our employees in the TVA nuclear power program.

Question: Is Stone & Webster in any way involved with TVA's nuclear power plant construction program as a supplier of materials, equipment, or other services? If so, what is the total value of this contract work? Does this create the potential of conflict of interest?

Answer: Stone & Webster currently is not involved in TVA's nuclear power plant construction program in any manner. Consequently, there is no contract value.

Question: What is the total cost, on an annual basis, of the $29,600 per month, 2-year contract? What will be Adm. White's annual salary including fringe benefits?

Answer: The monthly payment for Mr. White's services is a fixed rate negotiated in our contract with Stone & Webster. Unless the agreement is terminated earlier, the total will be $355,200 per year or $710,400 for the two-year contract. The entire amount of $29,600 per month is payable by Stone & Webster to STEMAR. This amount, as a flat fee, is to cover any salary or benefits Mr. White may receive as well as other expenses, including the cost of maintaining a second residence in Chattanooga, travel to and from his home in Virginia, etc.

Question: Of the total cost, how much will Stone & Webster receive?

Answer: Stone & Webster retains no part of the $29,600 per month paid to it for Mr. White's services.

Question: How much of the total cost is for services and how much is for overhead expenses?

Answer: No part of the amount paid for Mr. White's services is retained by Stone & Webster Engineering Corporation (SWEC) for any purpose, including overhead. With respect to the twelve (12) additional people being provided to TVA under the loan agreement between TVA and SWEC, the total annual cost is expected to be in the range of $2.5 to $3 million, of which about one-third represents overhead expenses.

Question: What additional support services will both Stone & Webster and STEMAR provide TVA?

Answer: TVA's contract with Stone & Webster Engineering Corporation (SWEC) for management and support services provides for SWEC to supply support services to TVA with a limit of $4,000,000 per year for the two-year period of the contract. The STEMAR Corporation is limited to providing five people over two years through the TVA contract with SWEC that provides Mr. White's services.

Question: Provide for the record a list showing all of the additional people being either hired or funded by or as a result of this contract, including a description of the work they will perform, and the amount each will be paid on an annual basis?

Answer: We are assuming that your question is addressed to our contract with Stone & Webster (SWEC) to provide the services of Mr. White and other key individuals. The specific individual's parent firm, assignment, and hourly rates are as follows:

In TVA Line Management Positions

W. C. Drotleff, SWEC, Director of Nuclear Engineering ($137.36/hour)

J. A. Kirkebo, SWEC, Manager of Engineering Services ($137.36/hour)

R. B. Kelly, SWEC, Director of Nuclear Quality Assurance ($137.36/hour)

J. E. Huston, SWEC, Assistant Director of Nuclear Quality Assurance ($137.36/hour)

Special Assignments - Not In TVA Line Management Positions

R. W. Bass, BETA, Various work as assigned (on a part-time basis) ($127.50/hour)

R. S. Brodsky, BETA, Various work as assigned (on a part-time basis) ($127.50/hour)

W. Wegner, BETA, Various work as assigned (on a part-time basis) ($127.50/hour)

The people from BETA are providing their services under STEMAR's contract with SWEC. As indicated in the answer to Question 24, the STEMAR arrangement is for it to provide up to five people in addition to Mr. White over two years through TVA's contract with SWEC and SWEC's contract with STEMAR.

Since the TVA Nuclear Recovery Program is still evolving, it is too early to project the full-time requirements for the loaned employees (you will note that only 7 out of 12 positions under this contract are being utilized). Thus, our contracts are written on an hourly basis, including holiday and vacation pay and payroll taxes. If it is necessary to determine an annual rate for those personnel assigned full time, the hourly rate can be multiplied by approximately 1800 billable hours.

In addition to the SWEC contract which provided the foregoing individuals from SWEC and BETA Associates, TVA has existing contracts with the Management Analysis Corporation (MAC) and is negotiating agreements with both General Electric and Bechtel for the following "loaned" employees:

In TVA Line Management Positions

R. L. Gridley, General Electric, Director of Nuclear Licensing and Safety (Rate currently being negotiated)

B. R. McCullough, Bechtel Corporation, Director of Nuclear Construction (Rate currently being negotiated)
A. K. Priest, Bechtel Corporation, Assistant to Director of Nuclear Construction (Rate currently being negotiated)
W. C. Bibb, MAC, Site Director, Browns Ferry Nuclear Plant ($146.88/hour) (see note)
G. Boddecker, MAC, Project Engineering, Manager, Browns Ferry Nuclear Plant ($134.99/hour) (see note)
E. Grimm, MAC, Assistant to Plant Manager, Browns Ferry Nuclear Plant ($134.99/hour) (see note)
D. Hill, MAC, Project Manager, Equipment Qualification, Browns Ferry Nuclear Plant ($134.99/hour) (see note)
E. Schlinger, MAC, Manager Engineering and Modifications, Browns Ferry Nuclear Plant ($157.97/hour) (see note)

NOTE: These contracts were established during 1985. The rates involved are currently under review.

Contacts with additional firms have been made and additional "loaned employee" agreements are contemplated to augment TVA's staff in addressing problems facing the nuclear power program.

A third category of personnel being employed involves those provided under miscellaneous personal services and other support contracts. As you may know, prior to the January agreement with Stone & Webster, TVA had in place more than 100 such contracts systemwide to address specialized needs, most of which relate to restoration of nuclear operations and completion of our construction program. These contracts (all current) total over $150,000,000 and involve a wide variety of skills and services.

Among the more significant of these prior contracts and their respective values are our agreements with Quality Technology Corporation (QTC) ($5.6 million), IMPELL Corporation ($27.0 million), EE&G - Idaho ($2.92 million), Gilbert Commonwealth ($5.0 million), Bechtel ($5.0 million), and Bartlett Nuclear, Incorporated ($20.0 million).

Question: Why isn't this a violation of the TVA Act which prevents you from paying an employee more than the pay cap allows?

Answer: The TVA Board has recognized that the problems in its nuclear program are basically management in nature. We have been urged by the public, the NRC, and some Members of Congress to act to meet this management crisis. Thus, throughout 1985 we hunted for top executive management capable of handling the responsibilities of our large nuclear program. From that search, we found that Steven A. White and Stone & Webster were available and able to provide TVA with the management talent having the experience, capability, reputation, and integrity needed.

The TVA Board believes it has made a sound and necessary business determination in contracting with Stone & Webster. TVA has duly disclosed and openly discussed in public on numerous occasions all aspects of the agreement, and is satisfied it is a proper arrangement with the best chance of preserving the value of the huge investment our ratepayers have in the nuclear power plants.

The TVA Act provides that the TVA Board can contract for services on terms and conditions as the TVA Board deems necessary to carry out the mission of TVA. TVA contracted with Stone & Webster for management talent on that basis, just as TVA has long contracted for services of all types, as needed. The manner in which Mr. White and other Stone & Webster employees are made available to serve in TVA positions makes them loaned employees of TVA, but they are specifically not appointed to TVA positions nor are they regular employees of TVA. Stone & Webster remains the primary employer or prime contractor with regard to those who come to TVA under this arrangement to fill management positions. TVA does not pay their salaries or provide them with compensation as employees for their services. TVA pays Stone & Webster the agreed-upon contract rate for the services of these nuclear power managers, and Stone & Webster in turn pays compensation under whatever employer-employee or subcontractor arrangements it has. There is no artificial limit on amounts TVA can pay for contract services, and it was necessary to pay the contract rate to obtain the necessary services.

The TVA Board has for a number of years stated its views about the difficulties of obtaining and retaining the calibre of managers necessary to operate the country's largest power generating system. We regret that it was necessary to obtain the services by contract, but we think it was necessary and appropriate.

Question: Was the contract with Stone and Webster accomplished on negotiated or competitive bid basis?

Answer: The contract as a services contract was negotiated. The TVA Act provides for the negotiation of such contracts, but in normal circumstances we seek as much competition as possible.

Sole Source and Personal Service Contracts

Question: TVA appears to contract for a sizable amount of goods and services through sole source or personal service contracts. How many sole source and personal services contracts are awarded annually by TVA? What is the total cost of these contracts?

Answer: In fiscal year 1985 TVA had approximately 867 personal services contracts in effect, for a possible maximum amount of $219,586,423. Of this number, 316 were for over $10,000. In 1985 TVA placed 102 notices in the Commerce Business Daily for personal services contractors, of which 46 were on a sole source basis.

Question: Why isn't this work accomplished through competitive bid?

Answer: Generally, Section 9(b) of the TVA Act provides that all contracts for supplies or services, except personal services, shall be made after advertising. Contracts for personal services may be made in a manner determined by TVA to be appropriate under the particular circumstances. TVA considers the number of possible contractors available to meet TVA's requirements. If additional contractors respond to a sole source notice in the Commerce Business Daily, we carefully evaluate their ability to provide the needed services.

Frequently, urgent needs of the power system or unique requirements such as knowledge of and/or access to special equipment or processes preclude the use of competitive bidding.

Question: What regulations govern the use of sole source and personal service contracts?

Answer: TVA enters into procurement and personal services contracts under the authority of Section 9(b) of the TVA Act.

With respect to procurement contracts, the TVA Act requires that they be made after advertisement, except for certain limited exceptions. Consistent with this provision, procurements above $25,000 are generally handled through competitive bidding. Of course, advertising where it is clear that there is only one source would be futile and the law generally does not require the performance of a futile act. The TVA Act does not change this general legal principle. However, TVA still seeks meaningful competition whenever possible, and care is taken to ensure that sole source purchases are made only when warranted. A determination that a contract is being awarded to an only known source must be made and justified by the purchasing agent and approved by a higher level manager in accordance with TVA's normal contract approval procedures.

The TVA Act does not require advertising or competition for personal services contracts. However, consistent with its overall policy, TVA procedures generally provide that three or more candidates be considered for contracts which exceed $10,000, or involve work above a certain level.

In addition to these TVA requirements, Public Law No. 98-72 requires that all procurement and personal services contracts (other than those providing for an employee-employer relationship) involving more than $10,000 in appropriated funds must comply with that law's notice and waiting period requirements, including a requirement that a notice of any intended competitive or noncompetitive procurement action be published in the Commerce Business Daily. With respect to proposed noncompetitive procurements, the notice contains a statement that interested persons are invited to identify their interest and capability to provide the goods or services in question and to submit appropriate proposals. In proposed sole source contracts within the coverage of Public Law No. 98-72, TVA is also prohibited from commencing negotiations for the award of such contract until at least 30 days have elapsed since that publication. Although not specifically required to do so by the law, TVA complies with the expressed legislative intent by following the notice and other procedures set out in Public Law No. 98-72 to the greatest extent possible with respect to contracts for the expenditure of power funds.

Generally, applicable requirements such as EEO regulations and Buy America Act provisions also apply to sole source contracts.

Question: How do you ensure the lowest cost for the work or services desired?

Answer: Competition for TVA's contracts has a favorable effect on the cost of those services to TVA. The cost to TVA of acquiring personal services is always a factor. Of course, cost is not the only factor that must be considered in selecting a contractor. The experience and ability of a contractor must also be considered. It is essential that a contractor be qualified to do the required job in accordance with TVA's requirements and on TVA's schedule. However, in following the procedures described elsewhere on advertisement and consideration of numerous available sources where possible, TVA attempts to obtain the services it needs at the lowest feasible cost.

All procurement contracts above $2,000,000 and personal services contracts above $500,000 must be approved by the TVA Board of Directors.

Personnel Cost of Appropriated Program

Question: How much of the appropriated budget request of $58 million is for salary and expenses, both direct and indirect of TVA employees? Provide this for the capital investment program and each major expense activity.

Answer: The following table provides the information requested.

	Estimated Salary and Expenses (Direct and Indirect)
Capital investment	$8,100,000
Natural resources	21,900,000
National fertilizer development	17,100,000
General services	500,000
Total	47,600,000

Question: Provide for the record a table showing total TVA employment for the past 10 years along with a breakout of the employment for both appropriated and nonappropriated activities. Also include the level of appropriations for each year, and that amount for direct and indirect personnel cost.

Answer: The following table provides the information requested.

Fiscal Year	Employment		Appropriations	Nonpower Direct and Indirect Personnel Cost*
	Appro.*	Nonappro.		
1976	2,845	29,295	$100,025,000	$48,021,000
1977	3,098	34,849	125,930,000	55,548,000
1978	3,270	43,884	138,510,000	60,178,000
1979	2,563	47,378	154,531,000	51,185,000
1980	3,256	48,453	222,475,000	78,600,000
1981	3,307	46,787	202,063,000	77,793,000
1982	3,669	36,230	129,162,000	88,199,000
1983	3,339	33,842	129,162,000	88,199,000
1984	2,910	30,678	125,500,000	81,748,000
1985	2,457	29,578	125,000,000	74,222,000

*Estimated

Question: In reviewing TVA's response to your authorizing subcommittee, it appears that the trend line of TVA employment, excluding the construction work force, has been up. How do you explain this general trend?

Question: How have you been able to maintain basic employment levels when funding levels and the construction program have been declining?

Answer: Since fiscal year 1980 TVA's total employment has declined from 51,709 to 32,035 in fiscal year 1985. We also estimate that appropriated employment has declined from 3,300 in fiscal year 1980 to 2,500 in fiscal year 1985.

This declining trend continues. We currently have on board approximately 29,000 employees, and in the President's budget for fiscal year 1987 we estimate total end-of-year employment of 31,000 for both fiscal years 1986 and 1987. The reason for the constant figure in 1986-1987 is the uncertainty currently surrounding the construction of TVA nuclear plants.

Funding Levels

Question: Now, the President's 1987 budget request reduces appropriations for TVA programs from $104 million to $58 million. What level of funding would be needed to continue 1986 programs into 1987 without new initiatives, expanded demonstrations, or broadening, in any way, activities currently being undertaken?

Answer: TVA's request to OMB of $114 million was intended to be a current services budget.

Question: Using the 1986 level of appropriations ($104 million) as the base, provide for the record a table showing how $95 million, $90 million, and $85 million levels of funding would be applied by program and activity.

Answer: The attached table reflects estimates of funding levels for fiscal year 1987 at $95, $90, and $85 million levels.

FISCAL YEAR 1987 BUDGET SCENARIOS

	TVA Request	$95.0 Million Budget	$90.0 Million Budget	$85.0 Million Budget
CAPITAL INVESTMENT				
Dam safety modifications.......	2,610	2,000	2,000	2,000
Additions and improvements.....	2,358	1,283	1,265	1,245
Recreation facilities..........	250	200	200	100
Land Between the Lakes.........	95	90	70	70
Chemical facilities............	5,050	4,008	3,246	2,196
General facilities..	2,052	1,458	1,257	1,117
Total capital investment	12,415	9,039	8,038	6,728
OPERATING EXPENSES				
Natural resources:				
Water resources..............	8,001	7,000	6,700	6,700
Reservoir system operations..	24,050	21,839	20,699	19,504
Land and forest resources....	4,300	3,525	3,100	3,100
Resource management and development support.........	4,805	4,250	3,950	3,425
Land Between the Lakes.......	6,900	5,800	5,620	5,265
Total natural resources.	48,056	42,414	40,069	37,994
Economic resources.............	13,210	11,150	10,650	9,900
Agricultural resources development............	4,436	3,950	3,800	3,130
National fertilizer development:				
Fertilizer R&D...............	19,300	14,541	14,482	14,483
Fert technology development..	12,385	10,616	10,378	10,378
Hardwood fuels research......	3,400	2,675	2,000	1,836
Total nat fert dev......	35,085	27,832	26,860	26,697
General services...............	798	615	583	551
Total operating expenses	101,585	85,961	81,962	78,272
Total appropriations....	114,000	95,000	90,000	85,000

Question: The Committee understands that TVA requested a budget of $114 million from OMB. What new initiatives or expanded activities, again using the 1986 $104 million appropriation as the base, are contemplated in your request to OMB?

Answer: None.

Question: Provide a table for the record which shows the TVA request compared to the 1986 level, before and after Gramm-Rudman, the TVA request level, and an explanation of those activities being impacted.

Answer: The attached table reflects the 1986 appropriations budget before and after the Gramm-Rudman reduction, and the 1987 TVA request.

Impacts of Gramm-Rudman rductions in 1986 are being felt in all major program areas:

Natural Resource programs

- Implementation of one groundwater demonstration will be reduced.
- Assessments of the impacts of three projects on TVA reservoirs to alleviate low dissolved oxygen conditions will be reduced.
- Flood hazard information will be provided to fewer communities than was originally planned.
- Planning for navigation additions and improvements will be reduced.
- Information services and improved systems estimating major flood risks will be reduced.
- Reductions will be made in the reservoir regulation activity and investigation of alternative operational schemes.
- Assessment of the extent of aquatic weed infestations using aerial photography will be eliminated on two reservoirs, herbicidal control of aquatic weeds will be reduced on three mainstream reservoirs, and maintenance of mosquito control drainage ditches and larvicide operations will be reduced.
- Work on portions of the Chickamauga Reservoir land use plan will be deferred.
- Several visitor facilities will either be closed or no longer operated on dam reservations.
- Other components of the reservoir operations program, including surveillance and compliance checks of agricultural licenses, timber management, boundary maintenance, shoreline inspection, and field checks of land use and Section 26a requests, will be reduced in scope. In addition, documentation required for National Register site applications as part of the Pickwick survey will not be completed.
- Technical assistance to forestry industry firms and gypsy moth joint venture assessment techniques with Virginia, North Carolina, and Tennessee will reduced.
- The great egret restoration project will be reduced and upland species restoration work will be eliminated.
- Public agency and commercial recreation assistance projects, and efforts to establish new commercial recreation areas on undeveloped TVA lands will be reduced.
- Environmental/energy education programming at the Norris Interpretive Center and the Nolichucky Environmental Study Area will be reduced, and interpretive literature will not be reprinted. Maintenance will be conducted at a level that will prevent deterioration of the sites.

- Scheduled work on revising 33 quadrangle maps will be deferred.

- Technical assistance in minimizing siting impacts of proposed new industry on air quality and controlling air pollution will be reduced.

- Public education efforts in both solid and hazardous waste will be reduced and two planned solid waste management demonstrations will be eliminated.

- At Land Between The Lakes the Youth Station will be closed in early summer 1986. A limited number of the groups currently scheduled for the Youth Station will be accommodated at the Brandon Spring Group Camp.

- Also identified for reduction or deferral are several road and other maintenance activities including restriping the Trace, removal of construction debris, erosion control, landscaping, and maintenance of day-use and informal areas.

Economic Resources programs

- Assistance in development of wood-handling facilities along the Tennessee-Tombigbee Waterway will be reduced.

- One community-based economic development project with a grass-roots organization and one economic development project with a power distributor will be eliminated. Projects intended to help commercialize new technologies which can create or expand new businesses in the region will be reduced. Technical assistance aiding in the expansion to existing industries in the valley region will be reduced.

- Two special opportunities counties and cities projects will be eliminated.

- Additional high-technology training in upper east Tennessee and development of a robotics training center in North Alabama will be reduced. Also reduced will be industry-specific training assistance and teacher upgrade training.

Valley Agriculture programs

- The G-R-H reductions in agricultural resources development will not permit us to begin several innovative research and development projects that will set the trend for future agricultural resource development in the region. There will be some reduction in the scope of our marketing development program, primarily eliminating any opportunity for new projects currently under study. We will not be able to promote market and agribusiness expansion by identifying new or expanded business opportunities. The reduction in farmland productivity will reduce the number of special pilot projects we can conduct as part of our multiagency Land and Water 201 program.

National Fertilizer Development programs

- The impact on the chemical facilities program will result in deleting the CAD systems for Design and Maintenance Branch from capital funding. This purchase of minor uninstalled equipment will be deferred to later years.

- Several planned expenses, such as the renovation of two laboratories and some improvements to the bench-scale acidulation facility, will either be canceled or deferred. Progress on several programs will be slowed, particularly those involving the physical and chemical properties of urea-containing fertilizers.

- This reduction will delay the initiation of several research projects planned in collaboration with land-grant universities to determine the best fertilizers and application techniques for use with new agricultural systems that have emerged through efforts of the USDA and others in various regions of the Nation.

- The impact on the fertilizer technology development program will be a reduction in the number of fertilizer industry firms and universities that help test our new products and processes. Coupled with reductions taken in prior years, the cut will affect our efforts to complete the development of new technology. The reduction will also cause some slowing of our programs to gain industry and farmer acceptance of new technology. The level of demonstrations to evaluate new TVA fertilizers across the Nation will be reduced.

SUMMARY OF BUDGET FINANCED FROM APPROPRIATIONS
(Obligations in thousands of dollars)

	1986		1987
CAPITAL INVESTMENT	BEFORE G-R-H	AFTER G-R-H	TVA REQUEST
New Lock at Pickwick Dam	709	709	
Columbia Dam and Reservoir	863	863	
Dam safety modifications	5,942	5,857	2,610
Additions and improvements	3,957	3,864	2,358
Recreation facilities	250	240	250
Land Between the Lakes	110	106	95
Chemical facilities	5,391	5,191	5,050
North AL Coal to Methanol	1,935	1,935	
General facilities	2,359	2,278	2,052
Total Capital Investment	21,516	21,043	12,415
OPERATING EXPENSES			
Natural Resources:			
Water resources	8,376	8,053	8,001
Reservoir systems operations	23,691	22,771	24,050
Land and forest resources	4,300	4,130	4,300
Resource mgmt and dev support	5,160	4,970	4,805
Land Between the Lakes	6,985	6,712	6,900
Total Natural Resources	48,512	46,636	48,056
Economic Resources	15,505	15,046	13,210
Agricultural Resources Development	5,136	4,931	4,436
National Fertilizer Development:			
Fertilizer R & D	16,900	16,275	19,300
Fert technology development	12,605	12,085	12,385
Ammonia from coal	200	200	
Hardwood fuels research	3,400	3,265	3,400
Total Nat Fert Dev	33,105	31,825	35,085
General Services	1,545	1,366	798
Total Operating Expenses	103,803	99,804	101,585
Jobs bill	81	81	
Total Appropriations	123,400	120,928	114,000

Bellefonte Nuclear Plant

Question: The total cost of the Bellefonte Nuclear Plant has increased from $2.9 billion to $8.5 billion since last year. How do you account for the $5.6 billion increase in one year?

Answer: The 1986 Budget Program included $5,465 billion for the total cost estimate for Bellefonte Nuclear Plant compared with $8.460 billion total cost estimate included in the Budget Program for 1987, an increase of $2,995 billion.

Based on revised load forecasts, coupled with trends that suggest early completion of the units would not produce a saving in the cost of producing electricity, the schedule for the completion of Bellefonte was delayed as needed to meet TVA's high load forecast requirements. Even with the increased capital cost at the Bellefonte Nuclear Plant, the extension of the construction schedule is expected to reduce costs to the TVA ratepayer and provide increased flexibility to adjust to an uncertain future.

A comparison of the estimated probable cost of the Bellefonte Nuclear Plant is shown below.

	Total Costs in Thousands		
	Previous Estimate	Current Estimate	Change
Costs excluding interest	$3,365	$4,070	$705
Capitalized interest	2,100	4,390	2,290
Total cost	5,465	8,460	2,995

Of the estimated $705 million increase in cost excluding interest, $620 million is expected to result from the schedule extension (69 months for each unit), including an $80 million increase in contingency. The remaining $85 million increase was not related to the schedule extension, but resulted from the following: $36 million increase in estimated contract costs; $32 million increase in estimated design and construction support costs; $24 million addition of the site master plan and onsite simulator operation; $9 million for an increase in NRC construction licensing fees; and $11 million increase for miscellaneous and all other changes partially offset by a $27 million reduction in labor escalation rates. The capitalized interest increases $2,290 million due mainly to the schedule extension and higher base rate.

Question: Explain the statement that "TVA has chosen a most prudent and least cost action for minimizing the cost of completing the Bellefonte nuclear plant."

Answer: TVA, in its power program, accepts its responsibility to provide an adequate supply of electricity at the lowest feasible cost. The changes in construction schedule at Bellefonte were based on two factors: (1) reductions in TVA's long-term load forecast, which indicated that the earliest TVA would need Bellefonte is in the mid-1990s; and (2) expected, although uncertain, high operating costs at nuclear units such that "early operation" would provide no operational cost saving over TVA's existing coal-fired generation.

Even though there is an increased cost of completing the Bellefonte Nuclear Plant, the extension of the construction schedule is expected to reduce costs to the TVA ratepayer through the early 1990s and provide increased flexibility to adjust to an uncertain future. The reduction in short-term capital expenditures reduces TVA's capital commitment and provides increased flexibility to further adjust the construction schedule at Bellefonte to either a later date or an earlier date to meet power supply needs. Increased flexibility allows TVA to accommodate the risks associated with uncertain load growth and uncertain capital and operating expenditures for nuclear plants.

Question: Why isn't it best to complete the units as quickly as possible thereby minimizing construction and inflationary increases?

Answer: As indicated in the response to question 41, increased flexibility allows TVA to accommodate the risks associated with uncertain load growth and uncertain capital and operating expenditures for nuclear plants.

Question: How does TVA's decision to delay the commercial operation date affect the rate structure? What would have been the estimated impact of TVA's rate structure if the previous operational date had been maintained?

Answer: TVA's decision to delay the commercial operation date for Bellefonte was based on developing the lowest cost mix of generating facilities and use of conservation programs to provide TVA power customers with the lowest power rates in the long run. The effects of such decisions are spread over many years and the resulting impacts vary from year to year. For example, the capital expenditure reduction from $270 million to $110 million at Bellefonte will result in an $8 million reduction in revenue requirements in fiscal year 1986 and a reduction of twice that amount in 1987. However, of more importance, the reduction in short-term capital expenditures reduces TVA's capital commitment and provides increased flexibility to further adjust the construction schedule at Bellefonte to either a later date or an earlier date to meet power supply needs. Increased flexibility allows TVA to accommodate the risks associated with uncertain load growth and uncertain capital and operating expenditures for nuclear plants.

Question: Is TVA considering terminating further work on the Bellefonte plant given the high cost and projected power demands?

Answer: TVA will continue to closely monitor the factors that impact its need for new capacity and those factors that would impact the costs of building and operating Bellefonte. These reviews will be accomplished on an annual basis and will serve to determine the actions necessary on Bellefonte construction.

Funding Through Appropriations or Power Revenues

Question: Some have suggested that those programs and activities where there is a direct benefit to the TVA area be funded by the ratepayers through power revenues. How do you feel about such a proposal?

Answer: All programs and activities that are paid for with power funds must provide a benefit to the power program, not just to the Tennessee Valley area generally. We feel strongly that power revenues from ratepayers should not be used to support or subsidize nonpower activities. Tax funds should be used for such purposes.

46. Question: Would additional legislation be required to provide funding from power revenues?

Answer: Additional legislation would certainly be required to use power system revenues for nonpower purposes, but legislation alone may not be sufficient.

Section 15d of the TVA Act—the "Self-Financing Amendment" that was enacted in 1959—specifies the purposes for which power system revenues may be spent. None of those purposes include nonpower activities.

In addition, Section 15d authorizes TVA to enter into binding covenants with the holders of TVA bonds with respect to the use of net power proceeds, among other things. The primary covenant with those bondholders is the Basic Power Bond Resolution. That resolution expressly restricts the use of net power proceeds to specifically enumerated power program purposes. Although the provisions of the TVA Act may be amended by Congress, congressional interference with the property rights of bondholders provided by the Basic Bond Resolution may constitute a "taking" without just compensation in violation of the Fifth Amendment to the U.S. Constitution.

Question: Would you agree that, if more programs were funded with power revenues, the Board and Congress would be better able to determine the priorities within the Tennessee Valley region?

Answer: We do not think that priorities should be determined by the basis on which programs are funded. Rather, power funds should be and are used to fund efforts that are necessary to carry out the power program. Conversely, power funds should not be used for nonpower purposes.

Question: If the entire appropriated program for 1986 were funded with power revenues, what would be the impact on your rates? What would be the change in the average monthly residential and industrial power bill?

Answer: Both industrial and residential rates would be increased 2.6 percent.

Additional User Fees

Question: Last year this committee made special note of the need for TVA to place greater emphasis on securing additional State, local, and private sector funding for its programs and activities, and expected TVA to institute new and additional user fees. What has TVA done in this regard? What specific actions have been taken?

Answer: Shared responsibilities have been a guiding tenet of TVA involvement in local, State, and regional development efforts throughout the agency's history. By design, TVA was headquartered in the Valley—to work directly with the people it serves. In recent years, in particular, cooperative agreements have been made with a wide range of public agencies, all levels of government, and with private parties. Participants in these agreements include various arms of the States; dozens of cities and counties; TVA power distributors; a wide array of Federal agencies; conservation, environmental, and sportsman's organizations; numerous private groups; and educational institutions. In many cases, these agreements involve what might be called "cost sharing without bookkeeping." In other words, formal relationships and shared responsibilities are established, but records are kept on the basis of responsibilities met and objectives accomplished rather than dollars spent. This type of relationship continues today in some cases although more formal bookkeeping arrangements are being instituted where feasible.

This commitment to a shared responsibility for regional growth through cost sharing and the cooperative use of public and private investment characterizes TVA's attitude in solving regional problems. It is equally important in designing demonstrations that are valid outside the Valley region.

In 1985 and 1986 TVA has continued to look to all program areas to contribute new or expanded opportunities for cost sharing and fee generation. Specific activities initiated during this period include:

Regional Water Management

In 1980 there were no explicit cost-sharing initiatives or cooperative agreements incorporated into the water quality program activities of TVA. This has since been changed and in 1985 alone TVA commenced cooperative agreements to accomplish the following:

- Kentucky Drought Study—Kentucky Division of Water, U.S. Geological Survey, and TVA.

- Douglas Tailwater Study—Tennessee Wildlife Resources Agency, Tennessee Division of Water Pollution Control, and TVA.

The following cost shared demonstrations were also initiated for the same period.

- Bear Creek Floatway—Landowners, Soil Conservation Service (SCS), Agricultural Stabilization and Conservation Service (ASCS), Auburn University, and TVA.

- Duck River Animal Waste Management Project—Landowners, SCS, ASCS, and TVA.

- Middle Fork Holston River Nonpoint Source Correction Project—Landowners, SCS, ASCS, and TVA.

- Artificial Wetlands Demonstrations—Pembroke, Hardin, and Benton, Kentucky; Kentucky Division of Water; and TVA.

- ANFLOW Demonstration—Haleyville, Alabama, ANFLOW INC., Martin Marietta, ARC, and TVA.

- Abandoned Manganese Mine Reclamation—U.S. Forest Service, landowners, and TVA.

- Abandoned Phosphate Mine Reclamation—Landowner, SCS, and TVA.

- Clinch and Powell River Protection Project—State governments of Tennessee and Virginia, and TVA (other Federal and local agencies may be brought in at a later date).

- Guntersville Reservoir Water Quality Management Plan Implementation—Alabama Department of Environmental Management, SCS, ASCS, landowners, and TVA.

- Student Water Quality Sampling Program—10 teachers from 10 school systems within the region, 20 high school students, and TVA.

- McMinn County Groundwater Demonstration—FFA and 4-H Clubs, McMinn County government, and TVA.

- Madison County Groundwater Demonstration—Huntsville, Alabama; Madison County Health Department; Utility Districts; and TVA.

Recreation Resources Program

- Currently a total of 12 recreation areas are operated under a variety of cooperative agreements that yield net annual operation and maintenance savings to TVA of about $160,000. The agreements include three commercial licenses, two personal service concession contracts, four cooperative letter agreements, two land use permit-license agreements, and one volunteer arrangement. In 1986 two more areas will be converted to operation under similar cooperative arrangements.

- A total of 84 stream access sites have now been acquired, with 54 developed sites being maintained by other public agencies. TVA expects to acquire five more sites in 1986 and transfer five additional sites to maintenance by others.

Wildlife Resources Development Program

- Since 1980 cooperative agreements have been established with some nine conservation or sportsman's organizations which provide labor to improve stewardship on TVA lands. Five more of these agreements will be implemented in 1985 and 1986.

- A new cost-sharing agreement with the Tennessee Wildlife Resources Agency (TWRA) has been developed for operation of dewatering areas in Tennessee. Starting in 1986 TWRA will pay a larger share of the electrical costs and conduct a portion of the maintenance activities for a total saving to TVA of up to $20,000 per year.

Land Between The Lakes

- Fee structures have been revised or expanded for annual hunter permits and interpretative programs and tours. New fees established for admission to The Homeplace-1850 in 1986, combined with these other changes in LBL fees, will generate over $290,000 in new revenues this year.

- Family camping and group camping fees at LBL have been evaluated and will be increased for 1986, generating $445,000 in additional revenues.

- Total income at LBL has increased from $744,000 during fiscal year 1980 to a projected $1,434,000 in fiscal year 1986, a 93 percent increase.

- Contingent on revisions of the Land and Water Conservation Act other new fee structures have been explored to further help defray maintenance and operations costs.

- Over 130 cooperative agreements with other Federal, State, local, and private organizations will be implemented during fiscal year 1986 as compared to less than 50 during fiscal year 1980. These agreements range from water safety training seminars sponsored by TVA, The National Water Safety Congress, Tennessee Recreation and Parks Association, Tennessee Department of Conservation, University of Tennessee, and the American Red Cross; to a joint TVA/U.S. Fish and Wildlife Service/Tennessee Wildlife Resources Agency/Tennessee Conservation League effort to restore nesting bald eagles to the LBL region.

Eagle Trust International, a nonprofit organization, will begin operation at LBL in 1986. Together, TVA and Eagle Trust will improve and expand the eagle propagation effort throughout the southeastern United States.

- LBL will implement a leadership training program during fiscal year 1986. This new demonstration in education will provide one-year professionals a "hands-on" training experience in their field of study. Through this program TVA also expects to glean new ideas and techniques that can be injected into the numerous programs offered at LBL and gain from the additional professional services that will be available to LBL programs during the period of training.

- Through an estimated $75,000 in donations and volunteer work coordinated by the LBL Association during 1985, LBL will operate a new observatory at the Golden Pond Visitor Center and an eagle breeding facility at the Wildlife Restoration Center. Over 2,000 visitors participated in special programs at the observatory during its first 2-1/2 months of operation.

- Over 175 volunteer members of the LBL Association will contribute about five man-years of assistance in fiscal year 1986 to supplement LBL staff in the conduct of numerous interpretation, education, and natural resource programs.

Special Opportunities Counties and Cities (SOCC)

- In 1980 the SOCC program had only 15 cooperative agreements in place. Today 57 are in force with local units of government throughout the TVA region. In 1985, 26 of them were implemented, and 1 has been implemented thus far in 1986. Fourteen additional agreements are expected to be completed this year.

Economic Technical Assistance Program

- Building on the agency's success in working with the local public and private sectors and community volunteers to create jobs, TVA has initiated a new program to train its 160 power distributors located throughout the Valley to play leadership roles in organizing and carrying out local economic development activities. This new cooperative relationship will mobilize a relatively untapped resource (the distributors) in support of economic development.

All the previous actions reflect TVA's efforts over this past year to explore new areas that through cost sharing and cooperative endeavors can benefit both programs and users. However, the need and opportunities for more aggressively pursuing fees and other contributions by program participants are issues on which TVA has placed increasing emphasis since 1980. Ongoing initiatives and specific agreements TVA commenced between 1980 and 1984 include:

Regional Water Management

Cooperative agreements:

- Tennessee Drought Study—Tennessee Department of Health and Environment, U.S. Geological Survey, U.S. Army Corps of Engineers, and TVA.

- Alabama Drought Study—Alabama Geological Survey and TVA.

- Memorandum of Understanding—Tennessee Office of Water Management and TVA.

- Land and Water 201 Programs—Food and agricultural councils of each Valley State, Soil Conservation Service of each Valley State, water pollution control agency for each Valley State, the Environmental Protection Agency (EPA), and TVA.

Cost sharing arrangements:

- Copper Basin Reclamation—Tennessee Chemical Company; Fannin County, Georgia; SCS; and TVA.

- Mica/Feldspar Abandoned Mine Reclamation at Spruce Pine, North Carolina—Landowners, mine owners, State of North Carolina, and TVA.

- Ft. Loudoun Reservoir Water Quality Management Plan Implementation—Tennessee Division of Water Pollution Control and TVA.

- Hamilton County Model Landfill—Hamilton County, Tennessee, and TVA.

- Bacteriological Sampling of Ocoee No. 1 Reservoir—U.S. Forest Service and TVA.

- Piney River Instream Flow Study—Dickson, Tennessee; Tennessee Office of Water Management; U.S. Geological Survey; and TVA.

- Waste Assimilative Capacity in Beech River—Lexington, Tennessee, and TVA.

- First Tennessee Development District Groundwater Demonstration—First Tennessee Development District, Tennessee Division of Water Pollution Control, Utility District, and TVA.

- Acid Rain Aquatic Effects Study—EPRI, Oak Ridge National Laboratory, University of Georgia, EPA, and TVA.

Floodplain Management

Cost sharing in the floodplain management program has increased significantly since 1980. In providing technical information and engineering assistance to community officials and private decisionmakers, those requesting assistance are generally required by TVA to provide local data and mapping needed for investigations and analyses.

For example, in special investigations for flood damage reduction at Huntsville, Alabama, and Maryville, Tennessee, city employees and local firms hired by the cities collected most of the extensive field data needed and provided maps which identified projected future development. These items were obtained at substantial local cost and enabled the limited TVA resources to be spread across more communities needing assistance.

Reservoir Land Management

- Administration of Lands and Section 26a—Since 1980 we have implemented increased standard minimum fees for commercial/industrial, private, and other revocable land use agreements. In 1980 we collected $47,000 from miscellaneous land use agreements and in 1985 we received $189,000.

- Administrative Cost Recovery—In 1983 TVA instituted a policy of recovering certain administrative costs associated with reservoir land transactions and violations and encroachment actions. In the two years of full implementation of cost recovery, $75,000 has been recovered.

Recreation Resources Program

- In 1980 TVA managed 12 fee campgrounds on its reservoir shorelines and collected almost $46,500 in revenue. In 1985, 28 fee campgrounds were managed directly by TVA with over $167,000 collected in revenue. The base charge per campsite of $4 in 1980 has since been raised to $6.

- Since 1980 TVA has transferred total responsibility for 14 reservoir recreation areas, representing a facilities investment of $1,680,000, to a local development agency (Tellico Reservoir Development Agency) for an estimated annual operation and maintenance saving of about $200,000.

Forest Resources Development Program

- In 1980 TVA provided all personnel and funding necessary to survey the Valley's wood industry situation. Now, TVA and State forestry agencies throughout the Valley share in updating industry data. State foresters do much of the door-to-door field data collection while TVA concentrates on processing and analyzing data and projecting trends in this important industry.

- Through 1980 TVA relied exclusively on data obtained from its own permanent forest inventory plot system, which was established throughout the Valley, for all timber resource information. Since then, TVA and the U.S. Forest Service have cooperated in both the field data collection work and the sharing of all plot data needed for analysis.

- In 1980 TVA maintained genetically improved trees in seed orchards throughout the Valley for tree improvement research and seed production. TVA now has agreements for the State forestry agencies to maintain the orchards in return for seed which is needed for their State nurseries.

Environmental/Energy Education

- In 1980 the University network of centers for environmental/energy education consisted of six universities, each receiving $20,000 from TVA.

- Today, all six of these centers are self-supporting, and any funds received from TVA are for only contracted products. This strategy is being used to form a self-supporting network that will include 17 major institutions.

Land Between The Lakes

- The U.S. Department of Agriculture has contributed about $465,000 for cooperative tick research at LBL since fiscal year 1984.

Special Opportunities Counties and Cities (SOCC)

- In 1980 the SOCC program worked in only eight Valley counties, mainly in Tennessee. Today the program covers the Valley's 50 poorest counties in the seven Valley States.

- In 1980 SOCC program funds were provided directly to project implementation with no provision for recovery. Today project funds are used for financing job creation projects in a way that allows for repayment and reuse of the funds.

- In 1980 SOCC program funds were often the only source of financing for a given project. Today a prerequisite of the program is to have multiple partners, especially from the private sector, supporting a project. This leveraging requirement has resulted in development of more projects and a job-to-dollar ratio of about one job for every $3,000 of SOCC money invested.

Existing Industries Program

- TVA did not have an existing industries program in 1980; however, today we provide a wide range of technical services to help plant managers lower their operating costs and plan for new expansions, in concert with State and local agencies throughout the Valley.

- TVA also has a cooperative agreement with its power distributors to identify prospective existing industries program clients.

Economic Technical Assistance Program

- In 1980 the majority of TVA expenditures were in support of public sector clients, such as local governments, State agencies, and public universities. In 1985 over 80 percent of TVA expenditures were in support of private sector initiatives or public/private sector partnerships. Increased TVA involvement with the private sector has resulted in a marked increase in the ratio of outside investment per TVA dollar expended, thus increasing the efficiency and effectiveness of TVA programs. Benefit/cost ratios of 15:1 were not unusual in 1985.

- In the 1982-1984 period, local economic development strategies initiated by TVA achieved a minimum return of 16:1 on TVA's technical assistance investment. All projects were undertaken with the cooperation of State and local governments and community volunteers and are currently being operated by local organizations. In Bristol, Tennessee/Virginia, for example, a TVA technical assistance investment of about $10,000 has led to establishment of a locally operated development program which has raised over $1,250,000 in local funds. Similarly, in Tippah County, Mississippi, a TVA assisted economic development strategy has led to the hiring of a local developer and a drive to raise private funds to support the local economic development program.

- In 1980 TVA did not use the services of private volunteer organizations to reduce the cost of program delivery. In 1984 TVA entered into a cooperative agreement with Bicentennial Volunteers, Incorporated (BVI), a volunteer organization. In 1985 volunteers provided 12,825 volunteer hours to various projects, including economic development, agriculture, energy conservation, hosting of visitors, and operation of TVA recreation areas. Volunteers work full time on short assignments for expenses only, thus saving TVA a great deal of cost.

- In 1980 TVA had no formalized agreements with State governments to set forth our working relationships with the States in the area of economic development. In 1982 TVA executed cooperative economic development agreements with all seven Valley States. Through these agreements, TVA is able to avoid duplication of State efforts, and to jointly direct resources toward problems and opportunities of special concern to the States.

Skills Development

- Over the past three years our research has shown that for every $1 invested by TVA and the skills development programs, the Federal Government receives $7 in taxes due to employment, as well as a direct reduction in Federal expenditures for unemployment benefits, welfare, and other social expenditures. This compares to a $3 return in 1980.

- Current TVA training activities result in a contribution from the private and public sector of $5 for every $1 supplied by TVA. This compares to a 2 to 1 ratio in 1980.

  Cooperative agreements have been expanded to all seven Valley States, as compared to two States in 1980.

TVA also recognizes the multiple purposes that major research and development projects can serve. Hardwood fuels research and development of an ethanol-producing pilot plant has reached the potential for completion in 1987. TVA has undertaken initiatives with the private sector that would cooperatively fund the operation and testing of the pilot plant if completed as a further step in assessing the commercial feasibility of TVA's research. Basic and applied research such as TVA has undertaken is also important in that it serves to meet multiple objectives of development processes that capitalize on underutilized regional resources, respond to a national need for substitutes for lead as a gasoline octane enhancer, and create crop alternatives for marginal lands where current farming practices result in massive soil erosion with resulting environmental damage and economic losses.

Another current major project is TVA's construction of a demonstration-scale, 160-MW atmospheric fluidized-bed combustion (AFBC) steam generation unit at its Shawnee Steam Plant. As the AFBC technology allows the use of high-sulfur coal without flue gas desulfurization, it shows promise of being less expensive than conventional coal-fired generating stations with scrubbers. This should be of great benefit to the Appalachian region, which has suffered from declining markets for its abundant high-sulfur coal. The potential benefits are so great that there is tremendous interest from other groups. Of the $236,400,000 pledged to design, construct, and test this facility, over 80 percent is to be provided by parties other than TVA. These include the State of Kentucky, EPRI, Duke Power Company, Combustion Engineering, and many others. While the AFBC project is clearly an effort of national consequence, TVA has also been able to site the effort in an area of rural southwest Kentucky where the additional jobs have been critical to the local economy.

Additional User Fees

Question: I understand that great efforts have been taken at the National Fertilizer Development Center to shift a sizable portion of the fertilizer R&D cost to private industry. What success have you had there?

Answer: TVA's fertilizer program has always been supported by the fertilizer users through the sale of fertilizer. Receipts from these sales are estimated to exceed $27,000,000 in 1987. A Cooperative Ventures Task Force at the National Fertilizer Development Center is studying and evaluating all options for securing funds from outside sources (Federal, State, local, and private sector). A goal of $715,000 was budgeted this year as the projected amount to be raised by charging for services.

Through February, signed contracts were in hand for about $155,000. Contracts are approaching completion for more than twice this amount. Task force members still hope to meet the estimated budgeted total, but there is no guarantee of success.

The attached tabulation shows cooperative ventures contracts to date, plus other projects for which OACD is reimbursed. The "others" total about $5,766,000--including more than $2,000,000 for the Electric Power Research Institute, $132,000 for IFDC, $444,000 for the Army, $782,000 for AID, and nearly $2,400,000 for DOE.

If the goal for cooperative venture projects is reached, that would give OACD close to $6,500,000 for fiscal year 1986. OACD reimbursables in fiscal year 1985 were about $5,500,000.

Cooperative Venture Projects

Name	Description	1986 Estimate
Ag-Chem Equipment Company....	Applicator tests (Broder)	$700
Celanese Specialty Operations	Evaluate use of ammonium sulfate (Balay)	1,232
Royster Company..............	Technology shortcourse (Achorn)	6,900
Texasgulf Chemicals..........	Evaluate MAP samples (Balay)	1,000
TVA - Power (EPRI)...........	Study - conversion of AFBC waste into sulfur or sulfuric acid and cement (Salladay)	50,000
USAMEX.......................	Petrographic analysis (Balay)	60
Beker Industry...............	Analysis (Balay)	15
Farmland Industries..........	Amm rsch applicator (Broder)	571
Ouachita Fertilizer Company..	Fertilizer analysis (Balay)	76
Form-U-Share.................	Form-U-Share software (Nevins)	9,862
Marketing Data...............	Marketing data (Bridges)	3,436
Commonwealth Agri. Bureau....	Abstracting service (Mackey)	25,000
Near East Foundation.........	Pilot-scale tilapia farm Jordan (Behrends)	-
U.S. Borax...................	Bench-scale tests (Balay)	1,750
Clay Mineral Society.........	Assistance in preparation for annual conference (Brady)	-
EBASCO Services, Inc.	Specialized technical services Shanghai WuJing Coal Gasification Trigeneration Project	-
Peoples National Bank, WA....	Fertilizer analysis (Balay)	3,896
University of Wisconsin......	Fertilizer, aglime, and pest management conference (Broder)	591
National Fertilizer Solutions Association................	Technical school (Achorn, Balay)	-
National Fertilizer Solutions Association................	Uniform tonnage report program (Hargett)	1,000
The Fertilizer Institute.....	Study: Cost of operating retail fertilizer business (Foster)	42,000
Total....................		155,052

Other Reimbursable Projects

Name	Description	1986 Estimate
Electric Power Research Institute..................	Coal gas tests, studies	2,010,246
International Fertilizer Development Center..........	Miscellaneous services	132,000
Army.........................	PDW maintenance and studies; RDX studies	444,334
AID..........................	Fertilizer and biomass technical assistance	782,256
Department of Energy.........	Various biomass energy programs	2,396,842
Total....................		5,765,678

Land Between The Lakes

Question: Has TVA done any exploratory work to see if anyone is interested in managing LBL?

Answer: We have made such inquiries, but to date no organization or entity, either Federal, State, local, or private, has expressed an interest in managing LBL.

Question: Would there be any major problem or impact if LBL were transferred to the Park Service?

Answer: The intensive multiple-use management philosophy under which LBL is operated results in a diverse array of benefits not found at other facilities. These include recreational and educational opportunities that result from developing the forest, wildlife, and fishery resources of the region, as well as from the management of programs and facilities for public users.

Traditionally, the philosophy of the National Park Service toward its role and services is much narrower than that of LBL. Consequently, the multiple-use management practiced at LBL would most likely be abandoned for a more restrictive alternative under National Park Service management, resulting in a loss of many of the benefits now accruing from LBL.

It is not certain that transferring management of LBL to the National Park Service would help accomplish the Administration's plan to reduce costs. While some activities would be eliminated, other income-producing opportunities would be lost, including agricultural licenses, timber harvesting, and some existing user fees. Termination of timber and farming operations at LBL would also be felt in the private sector where they presently contribute some $1.3 million annually to the regional economy.

In addition, LBL has established close working relationships with numerous universities and other agencies and institutions. Under National Park Service administration, these cooperative relations might be jeopardized.

Export of Forest Products

Question: Briefly update the committee on TVA efforts to assist wood producers in improving their competitive and economic advantage in the wood export market. How much has TVA spent on these programs over the past 2-3 years?

Answer: TVA efforts in assisting wood producers become more competitive in export markets have been focused on the Mississippi and Alabama portions of the Valley region. This is a pilot project to develop and test a strategy to stimulate exports from the area. The wood industry is currently experiencing very strong competition in domestic markets as other countries increase their exports to the United States. It is vital that the Nation's producers learn to think in export terms and reorient their business and production systems to compete effectively.

Through this program we are providing technical assistance in the areas of finance, production, transportation, and technology transfer to help producers establish the competitive position needed to meet the price and quality demands of export markets. A group of producers has been helped to form a marketing cooperative designed to create the volume necessary to compete successfully for large contracts. Workshops and direct assistance are being provided to producers in wood products export marketing. Detailed market studies which identified specific markets and buyers from Europe and the Pacific Rim have been conducted. A network of State and university cooperators has been established to help individual companies develop market plans, prepare quotations, and bid on international contracts. Plans are underway for a group of European buyers to visit mills in Mississippi and Alabama to investigate sales opportunities; and a trade mission to Belgium, Germany, and The Netherlands should follow. TVA is also cooperating with the National Association of State Foresters and the U.S. Forest Service in training State service foresters to effectively assist the industry on export modes.

TVA spent about $1.6 million in fiscal year 1985 and expects to spend $700,000 in fiscal year 1986 on these efforts.

Question: When do you expect this effort to be completed?

Answer: The pilot effort should be completed by fiscal year 1988. It is expected to set the stage for a broader TVA effort in the Valley which would continue through fiscal year 1991 or until vital elements are in place and functioning smoothly in the private sector.

Special Opportunities Counties and Cities

Question: Of the total resources available annually for economic and community development programs, how much has been devoted to the hard core, rural poor each year for the past 5 years?

Answer: TVA developed the special opportunities counties and cities program to provide special assistance to the areas of the Valley region that have less than 50 percent of the national average per capita income. The following table shows the amount spent on this effort for the past five years.

Fiscal Year	Obligation ($000)
1986	2,875 Estimate
1985	5,649 Actual
1984	2,205 Actual
1983	2,216 Actual
1982	1,537 Actual

In addition to this specifically targeted program, other TVA initiatives in forest resources, Valley agriculture, minority economic development, water resources, economic projects and demonstrations, and floodplain management frequently support activities that include the SOCC counties.

Special Opportunities Counties and Cities

Question: How many jobs have been created in these poor depressed areas and how many of these jobs remain today?

Answer: TVA's SOCC program has, over the past five years, helped create more than 7,900 direct, private sector jobs in the Valley's poorest areas. We estimate that about 90 percent or 7,150 of these jobs are in place today. This figure does not include the indirect jobs created through increased payrolls and employment in these areas. Typically, for every 100 direct jobs created, it is expected that 60 indirect jobs in the service and support sectors result. In this case, we estimate that some 4,200 additional jobs have resulted from these efforts.

Gramm-Rudman Reduction

Question: Reduction resulting from the Gramm-Rudman Act amounted to $4.5 million in appropriated funds and $3 million in administrative expenses in the power program. What will be the impact of these reductions?

Answer:

APPROPRIATIONS-FINANCED PROGRAMS

Natural Resource programs

- Implementation of one groundwater demonstration will be reduced.
- Assessments of the impacts of three projects on TVA reservoirs to alleviate low dissolved oxygen conditions will be reduced.
- Flood hazard information will be provided to fewer communities than was originally planned.
- Planning for navigation additions and improvements will be reduced.
- Information services and improved systems estimating major flood risks will be reduced.
- Reductions will be made in the reservoir regulation activity and investigation of alternative operational schemes.
- Assessment of the extent of aquatic weed infestations using aerial photography will be eliminated on two reservoirs, herbicidal control of aquatic weeds will be reduced on three mainstream reservoirs, and maintenance of mosquito control drainage ditches and larvicide operations will be reduced.
- Work on portions of the Chickamauga Reservoir land use plan will be deferred.
- Several visitor facilities will either be closed or no longer operated on dam reservations.
- Other components of the reservoir operations program, including surveillance and compliance checks of agricultural licenses, timber

management, boundary maintenance, shoreline inspection, and field checks of land use and Section 26a requests, will be reduced in scope. In addition, documentation required for National Register site applications as part of the Pickwick survey will not be completed.

- Technical assistance to forestry industry firms and gypsy moth joint venture assessment techniques with Virginia, North Carolina, and Tennessee will reduced.

- The great egret restoration project will be reduced and upland species restoration work will be eliminated.

- Public agency and commercial recreation assistance projects, and efforts to establish new commercial recreation areas on undeveloped TVA lands will be reduced.

- Environmental/energy education programming at the Norris Interpretive Center and the Nolichucky Environmental Study Area will be reduced, and interpretive literature will not be reprinted. Maintenance will be conducted at a level that will prevent deterioration of the sites.

- Scheduled work on revising 33 quadrangle maps will be deferred.

- Technical assistance in minimizing siting impacts of proposed new industry on air quality and controlling air pollution will be reduced.

- Public education efforts in both solid and hazardous waste will be reduced and two planned solid waste management demonstrations will be eliminated.

- At Land Between The Lakes the Youth Station will be closed in early summer 1986. A limited number of the groups currently scheduled for the Youth Station will be accommodated at the Brandon Spring Group Camp.

- Also identified for reduction or deferral are several road and other maintenance activities including restriping the Trace, removal of construction debris, erosion control, landscaping, and maintenance of day-use and informal areas.

Economic Resources programs

- Assistance in development of wood-handling facilities along the Tennessee-Tombigbee Waterway will be reduced.

- One community-based economic development project with a grass-roots organization and one economic development project with a power distributor will be eliminated. Projects intended to help commercialize new technologies which can create or expand new businesses in the region will be reduced. Technical assistance aiding in the expansion to existing industries in the valley region will be reduced.

- Two special opportunities counties and cities projects will be eliminated.

- Additional high-technology training in upper east Tennessee and development of a robotics training center in North Alabama will be reduced. Also reduced will be industry-specific training assistance and teacher upgrade training.

Valley Agriculture programs

- The G-R-H reductions in agricultural resources development will not permit us to begin several innovative research and development projects that will set the trend for future agricultural resource development in the region. There will be some reduction in the scope of our marketing development program, primarily eliminating any opportunity for new projects currently under study. We will not be able to promote market and agribusiness expansion by identifying new or expanded business opportunities. The reduction in farmland productivity will reduce the number of special pilot projects we can conduct as part of our multiagency Land and Water 201 program.

National Fertilizer Development programs

- The impact on the chemical facilities program will result in deleting the CAD systems for Design and Maintenance Branch from capital funding. This purchase of minor uninstalled equipment will be deferred to later years.

- Several planned expenses, such as the renovation of two laboratories and some improvements to the bench-scale acidulation facility, will either be canceled or deferred. Progress on several programs will be slowed, particularly those involving the physical and chemical properties of urea-containing fertilizers.

- This reduction will delay the initiation of several research projects planned in collaboration with land-grant universities to determine the best fertilizers and application techniques for use with new agricultural systems that have emerged through efforts of the USDA and others in various regions of the Nation.

- The impact on the fertilizer technology development program will be a reduction in the number of fertilizer industry firms and universities that help test our new products and processes. Coupled with reductions taken in prior years, the cut will affect our efforts to complete the development of new technology. The reduction will also cause some slowing of our programs to gain industry and farmer acceptance of new technology. The level of demonstrations to evaluate new TVA fertilizers across the Nation will be reduced.

POWER-FINANCED ADMINISTRATIVE EXPENSES

Since the activities reduced are all administrative expenses, no specific projects or programs were effected.

Question: The Continuing Resolution defined in detail what a program, project or activity was as it pertained to the Energy and Water Subcommittee. Has this language hampered your ability to carry out your work in an efficient and effective way, particularly your construction activities? Do you believe this definition is workable or is more flexibility needed? Would you care to recommend alternative language that would provide more flexibility and optimize program execution?

Answer: Congress's provision of a lump-sum annual appropriation is an important factor in TVA's ability to carry out its statutory responsibilities in an effective manner. By not being legally constrained by line item appropriations, TVA is able to rapidly adapt its activities to changing economic conditions, make midyear adjustments in reaction to program experience, and exploit emerging opportunities. This capability for innovation is one of the central features of TVA's value to the Tennessee Valley region and the Nation as a whole.

The implementation of Gramm-Rudman-Hollings or similar deficit reduction procedures in any manner which treats TVA's individual activities as if they are separately funded items hinders this capability for innovation. The detailed breakdown of TVA activities under the definition of "program, project, or activity" established by the continuing resolution was based on the assumption that TVA would not be legally limited to the reduced amounts indicated for each subdivision of TVA's unified regional resource development effort. To date, we are aware of no intention on the part of Congress or the Administration to so restrict TVA, which is to say that reprogramming of appropriated funds is still possible. However, as unprecedented pressures to achieve the required annual budget deficit ceilings are brought to bear in future years, it is uncertain whether Congress, the Administration, or the courts will continue to interpret Gramm-Rudman-Hollings as permitting reprogramming. Moreover, neither TVA nor the appropriations committees can be certain whether such flexibility would be available under any alternative budget deficit proposal which might be passed by Congress using these same subdivisions as legally binding restrictions. The possibility of such a reversal in interpretation, adverse court decision, or enactment of separate deficit reduction legislation with restrictive effects reduces TVA's ability to prudently utilize its existing flexibility.

Gramm-Rudman-Hollings statutorily authorizes the appropriations committees to substantially reduce this risk by discontinuing the practice of including tables subdividing the funding for TVA's total appropriated fund program in committee reports. Since appropriations bills normally provide a lump-sum appropriation for TVA, the absence of funding subdivisions in these committee reports would mean that any reduction required by a sequester order would apply at the lump-sum level. This would preserve TVA's historic reprogramming relationship with the appropriations committees and still subject TVA to its fair share of budget reductions, while reducing the risk of TVA's being placed in a fiscal straitjacket in future years. We hope that the appropriations committees will adopt this approach, commencing with fiscal year 1987.

Columbia Dam

Question: Briefly, update the committee on the findings related to Columbia Dam in TVA's recently completed report. Has any information or data been presented since November of last year that will materially change TVA's conclusion?

Answer: A draft report on the remaining benefits and costs for completing the Columbia Dam and Reservoir was published last November and widely distributed for public comment. This reevaluation was requested by the Office of Management and Budget. TVA plans to forward a final report to OMB in April.

Using the 1983 guidelines, as requested by OMB, TVA has calculated the new benefit-cost ratio at 0.5 to 1. This compares with a ratio of 1 to 1 for the Columbia Dam and Reservoir in TVA's 1969 evaluation and a ratio of 1.3 to 1 for the Duck River project (Columbia and Normandy combined) in that original analysis. The discount rate has risen from 4-7/8 percent to 8-5/8 percent, and the project cost has risen from $50 million to $239 million, with $159 million remaining to completion. Annual benefits considered in the new assessment include flood control, water supply, water quality, recreation (including fish and wildlife), land enhancement, transportation savings, and redevelopment. One benefit, enhanced employment, was considered in the original 1969 analysis but not in 1985. The 1983 guidelines for preparing economic analyses of water resource projects eliminate this class of benefit.

A discussion session on the report was held by the TVA Board at the January 15 meeting of the TVA Board of Directors in Knoxville, Tennessee, and a public meeting was held in Columbia, Tennessee, on February 19. This was the fifth public meeting to be held in Columbia regarding Columbia Dam.

It was obvious from these sessions that the completion of Columbia Dam has the overwhelming support of the public officials and citizenry of that area. The people sincerely believe the reservoir will be needed at some time in the future to meet their water supply and wastewater needs. They consider the agreement between the Upper Duck River Development Agency and TVA to require TVA to complete Columbia Dam.

However, TVA has found nothing through the public comment which would change our conclusion that from a national economic perspective the benefit-cost ratio, using the required 1983 guidelines, is 0.5 to 1.

Procurement Restrictions on EHV Equipment

Question: As you know, the fiscal 1986 appropriations act contains a 25-percent Buy American price preference on procurement of EHV equipment. Please list each fiscal 1986 procurement for your agency that has been, or will be, affected by the restriction, and the amount of each procurement, and explain the impact of the restriction on the procurement using both the definition of EHV equipment contained in the Statement of Managers accompanying the Conference Report on H.R. 2959 and the definition contained in my statement on the floor of the Senate during consideration of the Conference Report on H.R. 2959.

Answer: No contract awards for EHV equipment under either definition have yet been made in fiscal year 1986 that have been affected by this provision. However, a number of procurements are underway.

TVA has not undertaken to date any procurements of EHV power equipment as defined in your floor statement. If TVA were applying this definition of EHV power equipment, the 25-percent differential would not have affected these procurements.

However, TVA is currently undertaking the following five procurements of EHV power equipment as defined in the Conference Report on H.R. 2959.

RB-108642 - Weathering Tubular Steel Poles (Est. $280,625).
Invitation issued 3/17/86. Bids will be opened on 4/16/86.

RB-108643 - Galvanized Tubular Steel Poles (Est. $218,700).
Invitation issued 3/17/86. Bids will be opened on 4/16/86.

RB-121201 - Protective Relay Terminals (Est. $230,000).
Invitation will be issued about 3/20/86. Bids will be opened on 4/8/86.

HA-458028 - Main Power Transformers (Est. $2,180,000).
Invitation issued 3/12/86. Bids will be opened on 4/3/86.

RA-121214 - Capacitor Units (Est. $58,000).
Three domestic bids were received on 3/11/86. There were no foreign bids. Accordingly, this procurement was not affected by the 25-percent evaluation factor.

Except for the last procurement listed above, the impact of the 25-percent evaluation factor on these procurements is not determinable at this time. Whether other procurements of EHV power equipment that may be initiated during the remainder of this fiscal year will be affected by the

25-percent evaluation factor will depend upon a number of factors, the results of which cannot be predicted in advance, e.g., monetary exchange rates, whether foreign bids are received, and the relationship of any foreign bids to domestic bid prices.

Question: Please identify the American manufacturers of EHV equipment. In your opinion, are there sufficient American EHV manufacturers to offer competitive bidding in EHV equipment procurement? Answer the questions separately for each definition of EHV equipment.

Answer:

1. This response is based on Senator Hatfield's definition which reads as follows:

   EHV power equipment should include only power transformers, power circuit breakers, and shunt reactors rated and operated above 242 kilovolts and less than 1000 kilovolts. The American manufacturers of EHV power equipment are listed below.

   - Power Transformers: (1) General Electric, (2) McGraw-Edison, and (3) Westinghouse.

   This should be sufficient to offer competitive bidding in EHV power equipment, provided these manufacturers remain active in the EHV power transformer market.

   - Shunt Reactors: Same as above.

   - Power Circuit Breakers: There are no domestic manufacturers of 500-kV power circuit breakers, which is the only EHV transmission voltage TVA uses above 242-kV. Westinghouse closed their EHV power circuit breaker plant at Trafford, Pennsylvania, on December 31, 1985.

2. This response is based on the definition in the Conference Report on H.R. 2959 (which was enacted as Public Law No. 99-141), which reads as follows:

   EHV power equipment includes, but is not limited to, transformers rated above 10,000 kVA; fuses rated 2,300 V and above; circuit breakers rated 345 kV and above; relays; capacitors; surge arresters; AC/DC valves and controls; high voltage DC systems; and tapered tubular steel structures or structural units to support overhead electrical transmission lines.

   The American manufacturers of EHV power equipment are listed below.

   - Power Transformers Rated at 10,000 kVA and above: (1) General Electric, (2) Westinghouse, (3) McGraw-Edison, (4) ASEA, (5) Federal Pacific, and (6) Heavy Duty. Three domestic manufacturers, General Electric, Westinghouse, and McGraw-Edison, meet TVA specifications for 500-kV transformers.

     This should be sufficient to offer competitive bidding, provided these manufacturers remain active in the market.

   - Fuses Rated 2,300V and above: (1) General Electric, (2) Westinghouse, (3) McGraw-Edison, (4) Southern States, and (5) S & C

Electric. This should be sufficient to offer competitive domestic bidding provided these manufacturers remain active in the market.

o Power Circuit Breakers Rated 345-kV and above: There are no domestic manufacturers of 500-kV power circuit breakers, which is the only EHV transmission voltage TVA uses above 242 kV. Westinghouse closed their EHV power circuit breaker plant in Trafford, Pennsylvania, on December 31, 1985.

o Relays: (1) General Electric, (2) Westinghouse, and (3) various specialty relay suppliers of low-quantity purchases. This should be sufficient to offer competitive domestic bidding provided these manufacturers remain active in the market.

o Power Capacitors: (1) General Electric, (2) Westinghouse, and (3) McGraw-Edison. This should be sufficient to offer competitive domestic bidding provided these manufacturers remain active in the market.

o Surge Arresters: (1) General Electric, (2) Westinghouse, (3) Ohio Brass, and (4) McGraw-Edison. Ohio Brass and McGraw-Edison surge arrestors do not meet TVA equipment specifications at 500 kV. This should be sufficient to offer competitive domestic bidding provided the remaining manufacturers remain active in the market.

o AC/DC Valves: Not used by TVA.

o High-Voltage DC Systems: Not used by TVA.

o Instrument Transformers:

Current Transformers: Westinghouse. This is not sufficient to offer competitive domestic bidding.

Voltage Transformers: (1) General Electric, and (2) Westinghouse. TVA has not purchased voltage transformers since 1980. We are not certain that either General Electric or Westinghouse would bid on voltage transformers until market demand is sufficient to permit profitable production of this item. This is not sufficient to offer competitive domestic bidding.

Coupling Capacitor Voltage Transformers: Westinghouse. This is not sufficient to offer competitive domestic bidding.

o Tapered Tubular Steel Structures: (1) Power Enterprise, (2) American Pole, (3) Skyline, and (4) Union Metals. This should be sufficient for competitive domestic bidding provided these manufacturers remain active in the market.

o Structural Units to Support Overhead Electrical Transmission Lines: (1) Power Enterprise, (2) American Pole, (3) Skyline, (4) Union Metals, (5) Lehigh Structural, (6) Anchor Metals, (7) Rockwell, (8) Midland Metals, and (9) Lehigh Utilities. This should be sufficient for competitive domestic bidding provided these manufacturers remain active in the market.

o Insulators, 500 kV: NKGK-Locke. NKGK-Locke is expected to be a domestic supplier soon. There are no other approved domestic suppliers. This is not sufficient to offer competitive domestic bidding.

Question: How much EHV procurement has your agency undertaken in the last five years (fiscal 1982-1986)? Please list each procurement that would have been affected by the restriction, identify the successful bidder, and specify the dollar amount of the contract awarded. Again, answer the questions separately for each definition of EHV equipment.

Answer: While information in TVA's contract data base does not exactly match the definition of EHV power equipment cited in the conference report or Senator Hatfield's floor statement, based on available data we estimate that over the last five fiscal years TVA awarded some 235 contracts totalling about $40,750,000 for EHV equipment as defined in the conference report. A cursory review of these contracts indicates that the following procurements would have been affected by the 25-percent evaluation factor:

Contract No.	Bidder	Amount
85K08-836638	Smit Transformatoren	$761,050
83P06-120896	Allied Insulator Co.	20,415
83P05-934144	Smit Transformatoren	751,000
85P08-121041	Emil Haefely & Co.	20,610
83P06-120899	Trench Electric Ltd.	664,050
86PHA-837970	Spezielektra Corp.	144,244

If Senator Hatfield's definition of EHV power equipment is applied, it appears that over the last five fiscal years TVA awarded some 34 contracts totalling $18,033,000.

Five of the six contract awards listed above would have been affected by the 25-percent evaluation factor under Senator Hatfield's definition. However, the contract awarded to Allied Insulator Co. would not have been affected.

Question: If the same restriction were continued in fiscal 1987, please list each anticipated procurement by your agency that would be affected, estimate the amount of each procurement, and explain the impact of the restriction on the procurement. Provide the same information for the period 1988-1992, assuming the restriction was continued in its present form. Again, answer the questions separately for each definition of EHV equipment.

Answer: Note: TVA's future purchases of EHV power equipment cannot be predicted with certainty and are subject to change from year to year, depending on a variety of factors that cannot be evaluated in advance (e.g., unanticipated equipment failures). While TVA's estimated purchases of EHV power equipment are listed below, the purchase amounts and types of equipment actually acquired by TVA may differ from these estimates.

1. This response is based on Senator Hatfield's definition, which reads as follows:

> EHV power equipment should include only power transformers, power circuit breakers, and shunt reactors rated and operated above 242 kilovolts and less than 1000 kilovolts. TVA's estimated procurements are listed below.

For 1987:

Power Transformers	$1,000,000
Shunt Reactors	None
Power Circuit Breakers	600,000
Total	1,600,000

For 1988:

Power Transformers	$1,000,000
Shunt Reactors	None
Power Circuit Breakers	600,000
Total	1,600,000

For 1989:

Power Transformers	$1,000,000
Shunt Reactors	None
Power Circuit Breakers	1,200,000
Total	2,200,000

For 1990:

Power Transformers	$8,000,000
Shunt Reactors	None
Power Circuit Breakers	900,000
Total	8,900,000

For 1991:

Power Transformers	$8,000,000
Shunt Reactors	None
Power Circuit Breakers	600,000
Total	8,600,000

For 1992:

Power Transformers	$1,000,000
Shunt Reactors	None
Power Circuit Breakers	600,000
Total	1,600,000

Note: As stated previously, the information provided approximates TVA's anticipated needs for EHV power equipment. TVA's actual purchases of such equipment, in fact, may vary from these estimates.

2. This response is based on the definition in the Conference Report on H.R. 2959 (which was enacted as Public Law No. 99-141) which reads as follows:

> EHV power equipment includes, but is not limited to, transformers rated above 10,000 kVA; fuses rated 2,300 V and above; circuit breakers rated 345 kV and above; relays; capacitors; high voltage DC systems; and tapered tubular steel structures or structural units to support overhead electrical transmission lines.

TVA's estimated procurements are listed below.

For 1987:

Power Transformers (10,000 kVA and above)	$1,000,000
Power Circuit Breakers (345-kV and above)	600,000
Relays	930,000
Power Capacitors	500,000
Surge Arresters	200,000
AC/DC Valves	None
High Voltage DC Systems	None

Fuses (2,300 volts and above)	10,000
Instrument Transformers	100,000
Tapered Tubular Steel Structures	100,000
Structural Units to Support Overhead Lines	95,000
Insulators (500-kV)	250,000
Total	3,785,000

For 1988:

Power Transformers (10,000 kVA and above)	$1,000,000
Power Circuit Breakers (345-kV and above)	600,000
Relays	540,000
Power Capacitors	500,000
Surge Arresters	250,000
AC/DC Valves	None
High Voltage DC Systems	None
Fuses (2,300 volts and above)	10,000
Instrument Transformers	100,000
Tapered Tubular Steel Structures	100,000
Structural Units to Support Overhead Lines	650,000
Insulators (500-kV)	250,000
Total	4,000,000

For 1989:

Power Transformers (10,000 kVA and above)	$1,000,000
Power Circuit Breakers (345-kV and above)	1,200,000
Relays	670,000
Power Capacitors	500,000
Surge Arresters	250,000
AC/DC Valves	None
High Voltage DC Systems	None
Fuses (2,300 volts and above)	10,000
Instrument Transformers	100,000
Tapered Tubular Steel Structures	100,000
Structural Units to Support Overhead Lines	650,000
Insulators (500-kV)	500,000
Total	4,980,000

For 1990:

Power Transformers (10,000 kVA and above)	$8,000,000
Power Circuit Breakers (345-kV and above)	900,000
Relays	1,000,000
Power Capacitors	500,000
Surge Arresters	250,000
AC/DC Valves	None
High Voltage DC Systems	None
Fuses (2,300 volts and above)	10,000
Instrument Transformers	450,000
Tapered Tubular Steel Structures	100,000
Structural Units to Support Overhead Lines	650,000
Insulators (500-kV)	375,000
Total	12,235,000

For 1991:

Power Transformers (10,000 kVA and above)	$8,000,000
Power Circuit Breakers (345-kV and above)	600,000
Relays	1,000,000
Power Capacitors	500,000
Surge Arresters	250,000
AC/DC Valves	None
High Voltage DC Systems	None
Fuses (2,300 volts and above)	10,000

Instrument Transformers	300,000
Tapered Tubular Steel Structures	100,000
Structural Units to Support Overhead Lines	650,000
Insulators (500-kV)	375,000
Total	11,785,000
For 1992:	
Power Transformers (10,000 kVA and above)	$1,000,000
Power Circuit Breakers (345-kV and above)	600,000
Relays	540,000
Power Capacitors	500,000
Surge Arresters	200,000
AC/DC Valves	None
High Voltage DC Systems	None
Fuses (2,300 volts and above)	10,000
Instrument Transformers	100,000
Tapered Tubular Steel Structures	100,000
Structural Units to Support Overhead Lines	650,000
Insulators (500-kV)	250,000
Total	3,950,000

SUBCOMMITTEE RECESS

Chairman HATFIELD. The subcommittee will stand in recess until Tuesday, March 11, when we will continue with the Department of Energy programs.

[Whereupon, at 3 p.m. Wednesday, March 5, the subcommittee was recessed to reconvene at 2 p.m. Tuesday, March 11.]

ENERGY AND WATER DEVELOPMENT APPROPRIATIONS FOR FISCAL YEAR 1987

TUESDAY, MARCH 18, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 2:04 p.m. in room SD–192, Dirksen Senate Office Building, Hon. Mark O. Hatfield (chairman) presiding.

Present: Senators Hatfield, Mattingly, and Burdick.

U.S. NUCLEAR REGULATORY COMMISSION

STATEMENT OF CHAIRMAN NUNZIO J. PALLADINO

ACCOMPANIED BY:
THOMAS M. ROBERTS, COMMISSIONER
FREDERICK M. BERNTHAL, COMMISSIONER
JAMES K. ASSELSTINE, COMMISSIONER
ADM. LANDO W. ZECH, JR., COMMISSIONER

OPENING REMARKS

Chairman HATFIELD. The hearing will please come to order.

Today, we will continue our budget hearings for fiscal year 1987, and are pleased to receive testimony this afternoon from the Nuclear Regulatory Commission and the Federal Energy Regulatory Commission regarding their budget requests.

The subcommittee has a great interest in the programs and activities of both of these regulatory agencies, and we look forward to your testimony this afternoon. The first principal witness I wish to welcome is Chairman Palladino of the Nuclear Regulatory Commission.

Mr. Chairman, I understand you are returning to private life beginning at the end of June, when your term ends. Needless to say, I think it is the unanimous view of this committee and others who are familiar with the NRC is that you have served with great distinction and should feel a great sense of satisfaction when you return to private life for the kind of public contribution that you have made. Your valuable service over the past 5 years will be certainly not only noted on this occasion but, I am sure, will be referred to from time to time in the future.

We have your full statement and it will be placed in full in the record. Now, if you would care to introduce your colleagues, you may proceed to highlight or summarize your testimony as you wish.

I would like to also invite you, Mr. Chairman, to give the committee the benefit of any extracanonical remarks you wish to make in terms of your observations or in terms of your experience as Chairman for these number of years. That is over and beyond, of course, any of the material related to the budget request for 1987.

You may proceed.

INTRODUCTION OF ASSOCIATES

Mr. PALLADINO. Thank you, Mr. Chairman—and thank you for your very kind remarks.

Mr. Chairman, the Commission appears before you today to discuss NRC's fiscal year 1987 budget request. With me today are my fellow Commissioners, Commissioner Roberts, Commissioner Zech, Commissioner Bernthal, and Commissioner Asselstine. Also with me is the Acting Executive Director for Operations and Director of Principal Offices of the Agency.

With your permission, I would like to submit the complete prepared statement for the record and I will summarize it briefly.

1987 BUDGET REQUEST

Our budget request for fiscal year 1987 is for $405 million. This is $13 million below our fiscal year 1986 appropriation prior to any reduction resulting from the provisions of the Balanced Budget and Emergency Deficit Control Act of 1985—that is Public Law 99-177—and our 1987 budget is $43 million below our fiscal year 1985 appropriation. Our staff ceiling is also being reduced by 122 full-time equivalent staff. Appendix A to our testimony graphically demonstrates how actual purchasing power has decreased every year since 1981. The past 2 years have seen the most significant reductions.

GRAMM-RUDMAN IMPACT

The Deficit Control Act will reduce NRC an additional $18 million in fiscal year 1986. A reduction of this magnitude, almost halfway through the fiscal year, will have a significant impact on the programs necessary to support our regulatory responsibilities.

While we recognize and are supportive of the need for budget austerity, the Congress and the public must recognize that with these reduced resource levels, the NRC will be performing less regulatory oversight activities, not more. Our capability to respond to and resolve issues from unplanned events in a comprehensive and timely manner will be diminished.

For example, I point to the accident at the Sequoyah fuel facility as the type of unplanned event for which additional resources may be needed. Reduced resources seriously hamper our ability to focus on such issues in a timely manner without reducing resources elsewhere. At the same time, many forward-looking actions and programs necessary to meet future issues and challenges have been reduced or eliminated.

Our prepared statement and the attached table, Appendix B, summarizes the NRC budget request by major budget categories. The reductions vary in magnitude, but all major programs are affected. Please note that the table in Appendix B does not reflect the detail resulting from budget cuts due to Public Law 99–177.

NUCLEAR REACTOR REGULATION

With regard to the Nuclear Reactor Regulation Program, it is in transition. While demand for resources needed to review new license applications decreases, the demand for resources needed to evaluate safety-related licensing actions, respond to events, and perform overall project management is increasing with the number of reactors coming on-line. Budget cuts will severely constrain our ability to resolve major unanticipated problems at operating facilities and will reduce or eliminate other improvements. With regard to research, in terms of constant dollars, our research budget will be lower in fiscal year 1987 than it was when the agency was formed in 1975. Between 1981 and 1987, the Nuclear Regulatory Research Program will have been reduced by more than $110 million, or about 53 percent. Joint programs with other parties and improved operating economics cannot make up for these reductions over the years. The reduction in the fiscal year 1987 research budget will mean an end to some programs and significant delays in or deferral of others.

Concerning inspection and enforcement, our program will continue to emphasize on-site inspection of reactors. However, work on quality assurance initiatives, special team inspections, and technical support will have to be reduced.

NUCLEAR MATERIALS, SAFETY AND SAFEGUARDS

Finally, with regard to nuclear materials, safety, and safeguards, we will continue to carry out our extensive regulatory responsibilities under the Nuclear Waste Policy Act and the Uranium Mill Tailings Radiation Control Act and to meet the other significant priorities in our Nuclear Material Safety and Safeguards Program. However, the NRC fiscal year 1987 budget request does not include resources to implement the recently enacted Low-Level Waste Act amendments. We are examining where we can reprogram resources from other important activities within the agency.

The details of our budget request are contained in the budget submission, which has already been provided to the committee. Appendix C to our testimony provides examples of NRC accomplishments in fiscal year 1985.

Mr. Chairman, with your permission, I would like to submit for the record some personal observations based on my experience as Chairman of the NRC for 4½ to 5 years. My observations concern NRC's major goals, the future of nuclear power and nuclear regulation, and some suggestions for the Congress, and, if you wish, I would be pleased to summarize the ones in the submittal.

In closing, let me reemphasize that the budget request submitted to Congress represents a minimum program in the view of the Commission. We urge your strong support for the full amount of our request.

PREPARED STATEMENT

This completes my summary of the Commission's budget testimony. [The statement follows:]

STATEMENT OF CHAIRMAN NUNZIO J. PALLADINO

Mr. Chairman and members of the committee, the Commission appears before you today to discuss NRC's fiscal year 1987 budget request. With me today are my fellow Commissioners, the Acting Executive Director for Operations and the directors of the principal offices of the Commission.

OVERVIEW

Our OMB approved budget request for fiscal year 1987 is for $405 million. This is $13 million below our fiscal year 1986 appropriation prior to any reduction resulting from the provisions of the Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177) and $43 million below our fiscal year 1985 appropriation. Our staffing ceiling is also being reduced by 122 full-time equivalent staff.

Appendix A to our testimony graphically demonstrates how actual purchasing power has decreased every year since 1981. The past 2 years have seen the most significant reductions.

Public Law 99-177 will reduce NRC an additional $18 million in fiscal year 1986. A reduction of this magnitude, almost halfway through the fiscal year, will have a significant impact on the programs necessary to support our regulatory responsibilities. The Commission is currently evaluating the specific impacts that will result in fiscal year 1986. Furthermore, although the future impact Public Law 99-177 will have on NRC is not yet known, I can tell you that, if the recent highly publicized projections are accurate, the Nuclear Regulatory Commission's programs to ensure the adequate protection of the public health and safety would be seriously jeopardized in fiscal year 1987.

While we recognize and are supportive of the need for budget austerity, the Congress and the public must recognize that with these reduced resource levels the NRC will be performing less regulatory oversight activities, not more. Our capability to respond to and resolve issues from unplanned events such as those at Davis-Besse, San Onofre, Rancho Seco, TVA, and Kerr-McGee in a comprehensive and timely manner will be diminished. At the same time, any forward-looking actions and programs necessary to meet future issues and challenges have been reduced or eliminated.

There will soon be over 100 nuclear powerplants licensed for operation. Recent events have demonstrated that the resources needed for regulating an operating reactor can be about as much as for licensing a reactor. After the operating license is issued, resources are still needed to process license amendments, conduct related safety evaluations, license plant operators, and respond to and evaluate the impact of unanticipated events. In addition, more operating reactors will require more resources for tasks, such as conducting the resident and region-based inspection programs and analyzing operational data.

Appendix B to our testimony summarizes the agency's budget request by major budget categories. The reductions vary in magnitude, but all major programs are affected. I will briefly summarize each program. Please note that the table in Appendix B does not reflect the detail resulting from budget cuts due to Public Law 99-177.

REACTOR REGULATION

The Nuclear Reactor Regulation Program is in transition. While demand for resources needed to review new license applications decreases, the demand for resources needed to evaluate safety-related licensing actions, respond to events, and perform overall project management is increasing with the number of reactors coming on-line. For example, about 600 to 700 more licensing actions are anticipated for operating plants in fiscal year 1987 than were actually received in fiscal year 1985.

In fiscal year 1987, we will continue to work on operating license and standard plant applications still pending. We also intend to conduct active programs to oversee the safe operation of operating plants, to license reactor operators, to continue working on unresolved and high-priority generic safety and human factors issues, and work on initiatives related to severe accidents and safety goals.

Fiscal year 1987 budget cuts in the Nuclear Reactor Regulation Program will reduce or eliminate improvements in such areas as risk assessment, human factors, and advanced reactor concepts. Further, we will not be able to implement the Integrated Safety Assessment Program as a separate program. Also, our ability to resolve major unanticipated problems at operating facilities and those under licensing review will be severely constrained.

RESEARCH

In terms of constant dollars, our research budget will be lower in fiscal year 1987 than it was when the agency was formed in 1975. Between 1981 and 1987, the Nuclear Regulatory Research Program will have been reduced by more than $110 million, about 53 percent. Joint programs with other parties and improved operating economics cannot make up for these reductions over the years. The reductions in the fiscal year 1987 research budget will mean an end to some programs and significant delays in or deferral of others.

The absence of needed safety information will lead to greater conservatism in the regulatory process and could lead to plant shutdowns and power reductions. In the long run, it could cost the public more by not adequately funding the NRC research program.

The NRC research program is the principal U.S. Government program of nuclear safety research and is an essential part of our regulatory process. It provides us with the sound technical information we need to deal effectively with complex technical issues in reactor regulation, inspection, and nuclear material safety and safeguards.

A major feature of the research program is its emphasis on safety at operating facilities where problems continue to arise. Problems with corrosion, radiation embrittlement, and fatigue have raised specific questions about the continued safety of some currently operating plants. Operational problems include cracked piping at boiling water reactors, steam generator degradation at pressurized water reactors, defective valves and relays, and inadequate means for detecting and characterizing flaws.

Some of these questions are being resolved by research and regulatory action, but more questions are likely to continue to arise as plants mature and technology evolves. The NRC, as well as industry, must be prepared for these and other new safety issues. As such, a stable, properly balanced research program is essential for the Commission to carry out its responsibilities for effective nuclear safety regulation.

NRC research efforts planned for fiscal year 1987 will focus primarily on:

- The study of plant aging and deterioration of equipment and structure important to safe operation;
- Evaluation of recent source-term work to develop criteria for examination of individual plants and to identify regulations that could be affected by new source-term knowledge;
- Severe accident sequence analysis, damaged fuel, fission product release, and other research needed to provide a sound technical basis for implementation of the severe accident policy;
- Assessment of computer codes used to evaluate the safety response to a wide range of transients and accidents;
- Seismic analysis; and
- Development of methods and tools for evaluating DOE's proposed nuclear waste repository.

INSPECTION AND ENFORCEMENT

The Inspection and Enforcement [IE] Program will continue to emphasize on-site inspection of reactors. It will provide for a second resident inspector at most operating sites and will continue the assignment of at least two resident inspectors at all construction and preoperational testing sites. We also intend to continue to focus our attention on operating experience to identify issues of generic safety significance and licensees requiring increased regulatory attention.

Work on the quality assurance initiatives described in the staff's "Report on Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear

Power Plants," submitted to the Congress in April 1984, will be severely curtailed in fiscal year 1986 as a result of Public Law 99–177. Reductions will include initiatives related to future applications for construction. Technical assistance to inspections of nuclear suppliers and designers will be reduced by 50 percent in fiscal year 1986. There will only be minimum funding to support team inspections of major nuclear powerplant modifications during outages.

Funding reductions will also occur in fiscal years 1986 and 1987 in the special team inspection programs (Construction Appraisal Team, Integrated Design Inspection Program, and Independent Design Verification Program) for construction sites, in the emergency preparedness program, and in technical support to the staff for problem facilities in both construction and operation. Other inspection and enforcement programs will be retained essentially at their fiscal year 1986 levels.

NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

During the remainder of fiscal year 1986 and in fiscal year 1987, the Nuclear Material Safety and Safeguards [NMSS] Program will focus on several priority activities.

Specifically, we will continue to carry out our extensive regulatory responsibilities under the Nuclear Waste Policy Act and the Uranium Mill Tailings Radiation Control Act. We will be examining all aspects of the recent uranium hexafloride incident at the Kerr-McGee Sequoyah facility to determine if any regulatory changes are appropriate. We will be examining the adequacy of NRC safeguards requirements at licensed facilities in light of an increased sensitivity to current terrorist activities elsewhere in the world. And, we will begin executing our responsibilities under the Low-Level Radioactive Waste Policy Amendments Act of 1985.

However, you should be aware that the NRC fiscal year 1987 budget request does not contain resources to implement the recently enacted Low-Level Waste Act Amendments. We are currently examining where we can reprogram resources from other important activities within the agency.

Other important NMSS efforts in fiscal year 1987 include identifying and resolving issues associated with spent fuel shipment and storage, responding to unanticipated events involving fuel cycle facilities and materials licensees, completion of licensing cases for fuel cycle facilities and thousands of material licensees, and the conduct of a limited number of operating reactor safeguards regulatory effectiveness reviews.

BUILDING CONSOLIDATION

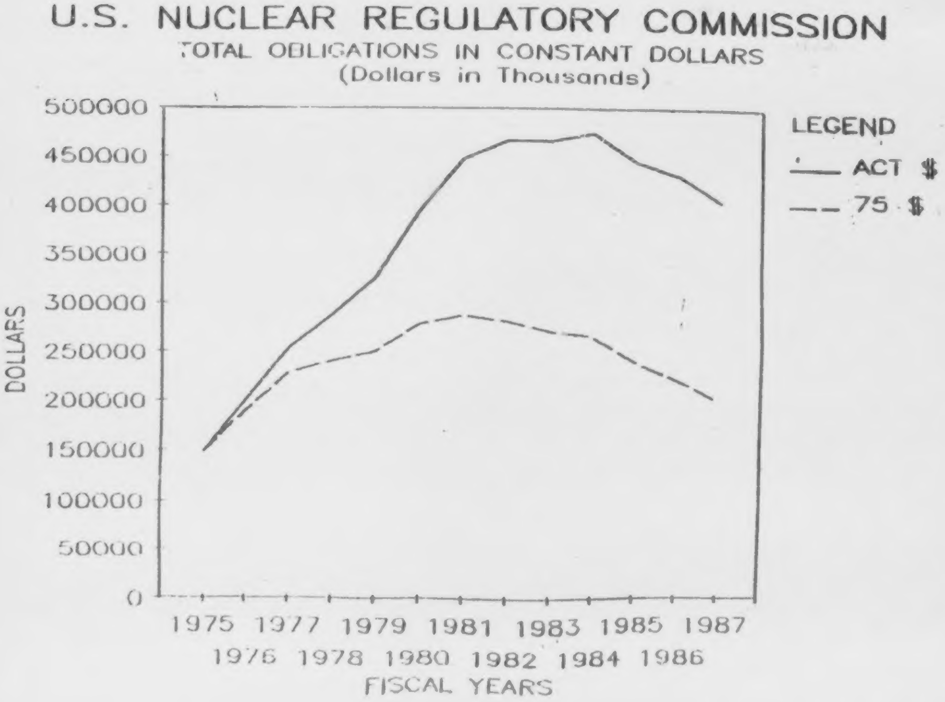
Of urgent interest to the Commission is the matter of NRC building consolidation. As you know, the NRC staff has been housed in 10 buildings in Rockville, Bethesda, Silver Spring, and the District. We appreciate the committee's continued support in our quest to consolidate and hope our efforts will bear fruit.

CONCLUSION

The details of our budget request are contained in our budget submission, which has already been provided to the committee. Appendix C provides examples of NRC accomplishments in fiscal year 1985.

In closing, let me reemphasize that the budget request submitted to Congress represents a minimum program in the view of the Commission. We urge your strong support for the full amount of our request.

APPENDIX A



APPENDIX B

BUDGET RESOURCE SUMMARY

[Dollars in millions]

Programs	Fiscal year 1985		Fiscal year 1986[1]		Fiscal year 1987[2]	
	FTE	Dollars	FTE	Dollars	FTE	Dollars
Nuclear reactor regulation	711	86.5	716	83.8	683	79.8
Inspection and enforcement	1,105	94.6	1,140	98.2	1,135	98.6
Nuclear material safety and safeguards	362	40.0	370	41.0	360	39.5
Nuclear regulatory research	226	150.0	207	134.7	180	113.5
Program technical support	365	30.8	355	30.3	330	30.5
Program direction and administration	729	43.5	703	43.3	681	43.1
Total	3,498	445.4	3,491	431.3	3,369	405.0

[1] Estimates do not reflect the $18 million reduction required by the Balanced Budget and Emergency Deficit Control Act of 1985.

[2] Deficit Control Act reductions are not known at this time.

APPENDIX C

EXAMPLES OF FISCAL YEAR 1985 ACCOMPLISHMENTS

- Issued initial licenses (restricted to 5 percent power) for 10 reactors, 8 of which were granted full-power authorizations. In addition, 3 previously licensed reactors received full-power authorizations.
- Dealt with problems and unanticipated events involving reactors under construction, operating reactors, materials licensees and fuel cycle facilities, including initiating a program to respond to reactor incidents.
- Carried out our responsibilities under the Nuclear Waste Policy Act.
- The Commission issued:
  - —Severe accident policy statement;
  - —New backfit rule to improve methods for administering the imposition of new requirements on licensees;
  - —Policy statement on training;
  - —Final rule on pressurized thermal shock;
  - —Proposed rule for public comment on criteria for decommissioning facilities; and
  - —Proposed policy statement for regulation of advanced nuclear powerplants.
- Provided Congress with revised licensing and standardization legislation and submitted six other miscellaneous legislative proposals for congressional consideration.
- Monitored and took appropriate regulatory action on TMI cleanup activities.

OBSERVATION OF CHAIRMAN PALLADINO

Chairman HATFIELD. Now, we would be happy to have any personal observations you have, Mr. Palladino. We have a full copy of them, but why don't you proceed to highlight some of the more important ones or provide additional emphasis that you wish to make.

Mr. PALLADINO. Mr. Chairman, my first observation concerns the accomplishment of NRC's major goals. During the past 4½ to 5 years, the regulation of the nuclear industry has resulted in continued assurance of public protection. In fact, I believe that, as a general proposition, nuclear powerplants are now safer than before.

Second, we have licensed about two dozen new reactors. We also completed the Three Mile Island Unit 1 restart proceeding. We have made much progress in the cleanup of TMI–2 and in waste management. We have made significant advances in defining a safety goal.

We have improved control of the requirements NRC levies on nuclear industry and we have proposed legislation for the Congress to streamline the licensing process.

However, some important goals have not been accomplished. I have in mind, particularly, first, the full understanding of the radioactive source term and its implications for nuclear regulation that appears to lie well in the future. Also, there are still too many operating incidents and construction problems, and they indicate that we haven't quite achieved the goal that we and industry would like to see, and that is excellence.

With regard to the future, I believe a climate of confidence is the key objective. If nuclear power is to continue to be of importance to America's energy mix, it must be backed by confidence, confidence both in nuclear energy and in nuclear regulation. One result of the continued incidents and problems at nuclear facilities is a persistent uneasiness about nuclear power on the part of the public, investors, and the Congress.

When incidents occur, we must react. Fewer incidents and problems should also reduce people's uneasiness about nuclear power.

In short, the better the industry does its job and the closer it gets to excellence, the more competence there will be in this area.

However, we regulators have the job of making sure that the nuclear industry does its job right. Thus, the better we do our job, the better there will be confidence. Also, I believe the NRC needs to focus on the following areas: First, NRC's highest priority should be to keep the pressure on the industry to strive for and achieve excellence in all aspects of nuclear facility operations and construction. The bulk of our activities in the Commission is to concentrate on operations as more plants are brought on line. We need to give continued attention to these operations and learn from all incidents as much as we can.

Another area suggests that NRC consider enhancing group qualification examinations to licensed operators and in monitoring of the nuclear industry's maintenance practices. NRC also needs to develop the best way to act on any potential signs that problems exist before serious problems develop.

Finally, NRC needs to understand the effects of aging on plant equipment and operations before aging causes problems and before NRC has to deal with nuclear protests.

If I may, Mr. Chairman, I would like to turn to some suggestions for the Congress. I hope that in carrying out our oversight of the agency the Congress can, from time to time, recognize the excellent contribution of our NRC staff. I feel we have a dedicated and very talented staff. Also, NRC must have adequate resources to do its job. Within the past years, Congress has cut our request by several tens of millions of dollars. Ultimately, we can only operate to the extent we have funds. With regard to future legislation, I recommend you pass some form of the licensing reform legislation that we and others have submitted and pass some form of Price-Anderson legislation that assures the public will get prompt compensation for valid claims. Although earlier I supported an approach with no cap, with regard to Price-Anderson, I would prefer a Price-Anderson Act with a cap to no act at all. Otherwise, you wouldn't achieve the objectives that I was hoping you would.

Lastly, I urge you to consider my recommendation of a year ago to change the NRC to a single-administrator form of agency. If the Congress retains the present Commission structure for the NRC, I would recommend careful review and the possible revision of the Sunshine Act. In its review, the Congress may wish to consider studies conducted by the Administrative Conference and the American Bar Association.

In closing, Mr. Chairman, I want to say that I sincerely appreciate the opportunity to have worked with you and your committee and to have known all the Members of the Congress that I was privileged to get to know. I wish all of you good success. Of course, I still have 3-

plus months, so I am looking to make sure that those 3 months are still effective.

Thank you, Mr. Chairman. That completes my personal remarks.

[The personal observations of Mr. Palladino follow:]

Personal Remarks by Chairman Palladino

INTRODUCTION

Mr. Chairman, since this may be the last time I will be appearing before you, I would like to provide some personal observations based on my experiences as Chairman of the NRC for more than 4½ years. My observations concern NRC's major goals, the future of nuclear power and nuclear regulation, and some suggestions for the Congress.

ACCOMPLISHMENT OF MAJOR GOALS

First are my observations concerning the accomplishment of NRC's major goals. During the past 4½ to 5 years:

1. Our regulatory oversight of the nuclear industry has resulted in continued assurance of public protection; in fact, I believe that, as a general proposition, nuclear power is safer now than ever before.
2. We have licensed about two dozen new reactors, with proper regard to safety and with little or no unwarranted delay. We also completed the Three Mile Island 1 restart proceeding.
3. We have made much progress in the cleanup of Three Mile Island 2 and in waste management.
4. We have made significant advances in defining a safety goal, and I hope final Commission action on a policy statement on this matter will occur before my term ends.
5. We have improved control over the requirements NRC levies on the nuclear industry; and
6. We have proposed legislation to the Congress to streamline the licensing process, focusing on encouraging and providing incentives for the use of standardized nuclear powerplants in the future.

However, some important goals have not yet been accomplished. I have in mind the following:

1. Full understanding of the radioactive source term and its implications for nuclear regulation lies well in the future.
2. Also, there are still too many operating incidents and construction problems; these indicate that our common goal with the nuclear industry—excellence—has not been fully achieved in all cases.

With respect to the future, I believe that the attainment of confidence is a key objective. Let me explain:

- If nuclear power is to continue to play an important role in America's energy mix, it must be backed by confidence—confidence both in the nuclear industry and in nuclear regulation.
- One result of continued incidents and problems at nuclear facilities is a persistent uneasiness about nuclear power on the part of the public, investors, and the Congress. In such a climate, regulatory reactions necessarily increase. When incidents occur, we must react.
- The nuclear industry has the job of building nuclear facilities correctly and operating them safely. Therefore, if the industry wants the regulatory reactions to be reduced, it has to reduce the incidents and problems.
- Fewer incidents and problems should also reduce people's uneasiness about nuclear power. In short, the better the industry does its job and the closer it gets to excellence, the more confidence there will be in nuclear power.
- However, we regulators have the job of making sure that the nuclear industry does its job right. Thus, the better we do our job, the more confidence there will be also.

To do our job better, some of the major things I believe the NRC needs to focus on in the future are as follows:

- First of all, to help assure that the public will continue to be protected, NRC's highest priority should be to keep the pressure on the industry to strive for and achieve excellence in all aspects of nuclear facility operations and construction.
- The United States is now close to having 100 operating nuclear powerplants. Since only about a quarter of that number of plants are still under construction, we have to reorient the bulk of our activities to concentrate on operations.
- Improvements have been made in our ability to regulate operating plants, to learn about incidents, and to learn from them as well. However, we need to give continuing attention to these operations and to learning from all incidents.
- Because of the great importance of reactor operator proficiency and proper maintenance, I suggest that NRC consider increasing its requalification examinations of licensed operators and its monitoring of the nuclear industry's maintenance practices.
- NRC also needs to develop the best ways to act on the many warning signs that exist before serious problems develop. The goal should be to find the root causes and fix them early-on.
- NRC should continue to thoroughly investigate serious incidents or accidents that do occur, again by focusing on the root causes and corrective actions needed to prevent recurrence.
- Finally, NRC needs to understand the effects of aging on plant equipment and operations before aging causes problems and before NRC has to deal with numerous requests for extension of plant life.

SUGGESTIONS FOR CONGRESS

Now let me turn to some suggestions for the Congress. I will begin by noting that, when my term is up, I will have appeared at approximately 70 congressional hearings. I also will have signed approximately 600 letters to Members of the House and Senate. Given that base of experience, I hope you will not think me presumptuous if I provide the following thoughts for you to consider as you oversee NRC and deliberate on nuclear power legislation:

- One of the bright spots about my job as Chairman has been the ability to observe the outstanding work of many of the Government employees at the NRC. We have a truly dedicated and talented staff whose main interest is in fulfilling NRC's responsibility to protect public health and safety. I hope that, in carrying out your oversight of the agency, the Congress can, from time to time, recognize the excellent contributions of NRC's staff.
- Also, NRC must have adequate resources to do its job. During my tenure alone, the Congress has cut our budget requests by several tens of millions of dollars. Ultimately, we can only regulate to the extent we are funded.
- With regard to future legislation, I recommend that you:
  - —Pass some form of the licensing reform legislation that we and others have submitted; and
  - —Pass a form of the Price Anderson legislation that assures the public will get prompt compensation for valid claims in case of injury to life or property if a nuclear accident occurs. (Although earlier I supported an approach with no cap, I would prefer a Price Anderson Act with a cap to no act at all.)
- Last, I urge you to reconsider my recommendation of a year ago to change the NRC to a single administrator form of agency.
  - —As we move more toward an agency that oversees only operating facilities, I believe we move farther from a Commission form of leadership that is best suited to debate.
  - —Further, given the present legal restrictions on Commissioners' ability to discuss points of view before reaching decisions, even the viability of debate is in question.
  - —A single administrator is also more likely to be able to implement the efficiencies needed in times of agency budget reductions.

- If, however, the Congress retains the present Commission structure for the NRC, I would recommend careful review and possible revision of the Sunshine Act. In its review, the Congress may wish to consider the studies conducted by the Administrative Conference and the American Bar Association.

In closing, I want to say that I sincerely appreciate the opportunity to have known all of you and to have worked so closely with you over the last 4½ to 5 years.

REMARKS OF COMMISSIONER LANDO ZECH, JR.

Chairman HATFIELD. Thank you, Chairman Palladino, for both your testimony and your observations.

Admiral Zech, I believe you will be the next Chairman of this Commission.

Admiral ZECH. Yes, sir.

Chairman HATFIELD. I would just like to note that Admiral Zech has the great advantage of having been launched from the greatest State of the Union—Oregon is his place of birth. [Laughter.]

Admiral ZECH. That is correct.

Chairman HATFIELD. I claim you as a distinguished son.

Do you have any further comments that you would like to add to Chairman Palladino's at this time?

Admiral ZECH. I would just like to say, Mr. Chairman, that I certainly would join with you in your complimentary remarks for Chairman Palladino. He has, indeed, taken the leadership of this Commission at a very difficult time and has provided competent, dedicated, and productive service to our country.

So I share your views and look forward in the next few months as we approach Chairman Palladino's completion of his tour and my beginning that we have a smooth and complete turnover. Chairman Palladino and I both agree on that. We have already started in that regard, and I look forward to the very difficult and challenging assignments as the Chairman.

I don't have a formal statement to submit today, Mr. Chairman, but with your permission, I would like to supply some brief remarks for the record.

Chairman HATFIELD. We would be happy to receive them, Admiral Zech.

Admiral ZECH. Thank you.

[The statement follows:]

STATEMENT OF COMMISSIONER LANDO W. ZECH, JR.

I support the budget of $405 million for fiscal year 1987, as submitted. I believe we can get the job done with this budget.

I would like to make a point about consolidation and the importance of consolidating our scattered segments of our agency. As you know, we are located in 11 different buildings throughout the Washington, DC, area. We have been trying very hard to get consolidated.

If we can consolidate our Commission and staff, I do believe that we will be taking a long step forward toward assuring that we will continue to be able to do our job with less budgetary resources. So I think it's important, in my view, that we consolidate.

Commissioner Asselstine has made some remarks in prior statements on the fiscal year 1987 budget that I would like just very briefly to allude to.

First of all, I don't believe that the plants that are shut down now are caused by budgetary problems, certainly none of which I am aware. I agree that we should improve our ability to improve our performance and identify our performance trends, but I am not aware that the resources are a problem in this area.

In my view, more Federal funds will not and should not displace the private sector's responsibility for constructing, maintaining, operating, and managing the nuclear powerplants.

Finally, I don't believe that any needed programs, any vitally needed programs, will be eliminated with the $405 million budget.

Thank you, Mr. Chairman.

Chairman HATFIELD. Chairman Roberts, do you have any additional remarks you would like to present?

Mr. ROBERTS. No, none.

Chairman HATFIELD. Commissioner Bernthal, would you like to make any comment between the executive branch and the legislative branches? [Laughter.]

Mr. BERNTHAL. I would enjoy doing that, but probably you wouldn't enjoy listening to that. [Laughter.]

REMARKS OF COMMISSIONER JAMES K. ASSELSTINE

Chairman HATFIELD. Commissioner Asselstine, do you have any further remarks or any additional comments you would like to make?

Mr. ASSELSTINE. Maybe just one or two, Mr. Chairman, if I could.

Chairman HATFIELD. I wonder if you could move the microphone to the Commissioner.

Mr. ASSELSTINE. I don't have any prepared statement, Mr. Chairman, but I would just note that I agree with many of the comments that Chairman Palladino expressed in his own personal remarks.

I think one point deserves some emphasis. One of the points that the Chairman stressed was the need for some forward-looking efforts on the part of the agency to identify problems before they result in either accidents or serious operating events at a plant.

I would note that we have seen a number of those events over the past year—events at Davis-Besse, Rancho Seco, San Onofre, and also the problems at the TVA system. If we are going to identify those problems and get them solved before we see serious operating events or accidents, we need to focus on forward-looking programs within the agency.

Unfortunately, as a result of the budget reductions imposed by OMB, those are precisely the programs that are being cut back or eliminated for fiscal year 1987. I think that is a mistake, and in some areas, particularly in the use of quality assurance initiatives and in the use of team inspections of plant operations, maintenance, and surveillance programs, and also in taking an integrated look at the safety of at least a few of the plants, we would be doing things that would help minimize the likelihood that we would see more of these serious operating events in the future.

Unfortunately, most of those programs will be eliminated or cut back substantially in fiscal year 1987. I think we ought to at least consider alternatives that would provide some additional funding to carry out those kinds of initiatives. A couple of proposals that we have considered in the past, and that I know the administration and the Congress are beginning to look at are: First, allowing us to gain access to the nuclear waste fund to fund the cost of our repository licensing program; and second, use of some sort of a fee, a user fee or charge on the nuclear powerplants to recover some of the costs of our research program, particularly those costs for research programs that provide a direct benefit to the industry.

I think those are a couple of approaches that the Congress should look at and consider. I think they provide some additional sources of funding apart from putting the burden on the Federal taxpayer to enable us to do more of the forward-looking kind of programs that Chairman Palladino mentioned and that I think are necessary.

That is all I would add at this time. I do have a statement prepared for the Senate Environment and Public Works Committee that expresses some of my concerns that I will submit for the record.

[The statement follows:]

STATEMENT OF COMMISSIONER JAMES K. ASSELSTINE

Mr. Chairman, I would like to add a few brief comments on the Administration's FY 1987 budget request for the NRC. The Commission's testimony has identified a number of NRC programs that will have to be scaled back or eliminated altogether as a result of the reductions to our budget request imposed by OMB. As the Commission's testimony notes, many of NRC's forward-looking programs will be either reduced substantially or terminated. This will leave us with little in the way of change from the reactive approach to regulation that we have employed in the past. It will also hinder our ability to respond effectively to serious operating events when they do occur.

The consequence of this reactive approach to regulation is, I think, clear. By the end of 1985, eight operating reactors -- Davis-Besse, Rancho Seco, San Onofre Unit 1, and TVA's Sequoyah and Browns Ferry plants -- were shut down as a result of serious operating events or a breakdown in the licensee's management so severe that neither we nor the licensee had confidence that its plants could be operated safely. This group of plants is equal to the number of plants that received new full-power operating licenses last year, and represents about 8 percent of the total number of plants with operating licenses. The Commission's original FY 1987 budget proposal contained a few modest efforts to improve our ability to identify such problem cases _before_ they result in serious operating events that pose a potential hazard to the public. These efforts included the expanded use of team inspections to review plant operations, maintenance and surveillance activities and modification work at the plants. They also included efforts to take a more integrated look at safety at a few plants. These were steps toward a more proactive approach to regulation that is needed if we are to improve the performance of the existing plants and reduce the number of serious operating events. In addition, the Commission had begun some regulatory review work on advanced reactor concepts such as the high-temperature gas cooled reactor and the PIUS light-water reactor that hold the promise of greater simplicity, higher margins of safety and ease of construction when compared with existing reactors. I believe that the consequence of reducing or eliminating these more forward-looking programs will be that we will see more serious operating events of the type experienced this past year. As the number of operating plants continues to increase, as the existing plants grow older, and as we see continued evidence of the complexities and hidden vulnerabilities in these plants, we should be doing more rather than less forward-looking work.

Like my colleagues on the Commission, I, too, recognize the need for budget austerity. But rather than eliminate these needed programs, I would prefer to explore some more creative measures to obtain the necessary funding. An alternative, which appears to have the support of the Administration and OMB, is to obtain additional funding from the industry. I would recommend that the Congress consider two options here.

The first is funding the NRC's high-level radioactive waste disposal program from the Nuclear Waste Fund established by the Nuclear Waste Policy Act. Our high-level waste program is focused on the licensing of the high-level waste repository. Just as with DOE's repository development program, our repository licensing program is required to support the use of commercial power rectors. The costs of the repository program -- regulatory as well as developmental -- should be paid by those who benefit from the use of nuclear power. This could be accomplished in a variety of ways, including direct reimbursement to NRC from the Nuclear Waste Fund for the annual costs of our high-level waste licensing and research expenses or by means of an annual license fee to be paid by DOE and recovered from the Fund. Whatever means is used, it seems to me that the utilities through the Fund, rather than the taxpayers, should pay for the regulatory costs of the repository that are attributable to the commercial industry.

The second option that I believe the Congress should consider is the imposition of annual charges on our licensees to recover a greater portion of the costs of our reactor safety research program from the industry. At present, we charge license fees to cover the costs of our licensing and inspection activities that can be attributed to a particular facility. However, we do not take that approach with our safety research programs. Many of these programs provide a direct benefit to the industry. For example, as the Commission's budget testimony and our more detailed budget description note, some of our research programs are aimed at determining the acceptability of plant operations with degraded safety equipment such as cracked pipes in boiling water reactors and weakened steam generators in pressurized water reactors. These and other conditions constitute reductions in the quality and condition of safety systems from what was expected when the plants were licensed. Other NRC research programs are aimed at reducing the level of conservatism in our existing safety regulations -- actions which can reduce plant operating, maintenance and surveillance costs, and which could result in higher power levels for the plants. Because it has been difficult to quantify and assign such benefits to individual plants, we have not attempted to impose the costs of these research programs on the industry. While the industry has voluntarily participated in some safety research programs, the lion's share of the cost has been paid over the years by the taxpayer.

I believe that a greater portion of the costs of these programs should be recovered from the industry. There are several ways of accomplishing this. One means is the imposition of annual charges as proposed in the Consolidated Omnibus Budget Reconciliation Act of 1985. Whatever the means used, recovery of a greater portion of the costs of our safety research program from the industry, coupled with payment of the repository regulatory costs from the Nuclear Waste Fund, would provide the funds needed to carry out a set of aggressive, forward-looking regulatory initiatives to improve the performance of our commercial power reactors without increasing, and perhaps even by reducing somewhat, the financial burden on the Federal taxpayer. I believe that now is the time to consider such a creative approach for funding NRC's regulatory programs.

SUBMITTED QUESTIONS

Chairman HATFIELD. Thank you. That raises a number of questions that I want to follow through with the outgoing Chairman. When it comes to that time, I will propound those questions.

Before I do that, I would like to yield to the Senator from North Dakota for any questions that he may wish to ask.

Senator BURDICK. Mr. Chairman, I would like to submit two questions for the record in the interest of time.

Chairman HATFIELD. All right, those questions will be inserted at an appropriate point in the record.

Senator BURDICK. That is all.

Chairman HATFIELD. The Senator from North Dakota will have some questions that he will submit to the Chairman and the Commission for the record.

Chairman HATFIELD. The Chair would recognize the Senator from Georgia.

Senator MATTINGLY. Mr. Chairman, I would just welcome the witnesses today, and I hope that any budget restraints that would be used would not impair the agencies responsibility to public health and safety.

Mr. Chairman, that is all I have at this time.

NRC USER FEES

Chairman HATFIELD. There will be a number of other questions that we will submit in writing and ask that you respond as quickly as possible.

Mr. Chairman, let me follow up now on an issue raised by Commissioner Asselstine. That is the matter of the 1986 budget reconciliation legislation which included an increase of NRC fees to cover some 33 percent of your budget.

I would like to go back to a series of questions to build a record on this particular issue. The House Energy Committee, as you know, has proposed legislation which requires NRC to increase licensing fees and other charges to help to finance the agency's program.

My first question is, in the light of both of these actions, the introduction of such legislation and the reconciliation language, how much of your budget in fiscal year 1986 will be offset by licensing fees and inspection charges?

Mr. PALLADINO. Mr. Chairman, we charge fees for services, and we have that authority, but I think that is as far as the authority goes. I think this fiscal year we project collecting approximately $60 million in such fees. These funds are sent directly to the Treasury.

However, I think the new legislation sees a user fee of much greater magnitude and on a broader base than just the base of providing services. Such a user fee could be used to help offset the costs of the NRC budget, and we have our staff looking at alternative ways of considering those fees, including fees from the nuclear waste fund.

We, in response to Senator Simpson, are trying to meet a deadline of April 1. The Commission has not yet gotten the staff findings. It will be expected in the next couple of days.

To make a general comment, I would hope that any legislation that covers user fees would be a simple one so that it is easy to administer. I don't think it advisable to burden the Commission with collecting and accounting for these fees. Further, we need a system that would give us our budget figure up front rather than retroactively.

Chairman HATFIELD. Do I understand, then, that in the current fiscal year you say you will produce about $60 million in fees? What percentage of the budget does that represent, approximately 15 percent?

Mr. ROBERTS. Approximately.

Mr. PALLADINO. That is right, 15, approximately.

Chairman HATFIELD. Under current policy, what would you predict or project for 1987; that is, the number of dollars and what percentage of your budget in 1987?

Mr. PALLADINO. If the law didn't change, I would expect it to be not too different from the past year.

Chairman HATFIELD. About the same level?

Mr. PALLADINO. About the same level. However, if the legislation changes, then, of course, we would strive to achieve whatever the legislation tells us to do.

Chairman HATFIELD. Do you have sufficient authority to handle the increase of those fees without legislation?

Mr. PALLADINO. I think we are honor-bound to charge only for direct services that can be attributed to our action on a particular point.

Chairman HATFIELD. So then you would really, then, require this particular legislation to which I referred in order to reach the 33-percent level if that became the goal? To reach that 33 percent, you would require legislation?

Mr. PALLADINO. Yes. We would require additional legislation.

Chairman HATFIELD. You have made allusion to your view, but let me underscore it in this context. In view of the current budgetary problems and restrictions and in light of the so-called 33-percent goal, what is your personal view, and let me emphasize your personal view—realizing your term expires in June, so you are totally uninhibited [laughter] as to the matter of increasing these annual charges through licensing fees to, say, produce a level of funding that would represent 33 percent of your budgetary requirements.

I know in your personal remarks you alluded to that, but would you care to be more explicit in terms of any additional information you would like to give the committee?

Mr. PALLADINO. My concern is that the NRC budget is getting to a level where our ability to do an effective regulatory job is being severely impaired. I would not like to see any budget lower than the amount projected for 1987, and of course, in addition to the budget reduction that is being considered for 1987, I am concerned that the Gramm-Rudman-Hollings bill will bring about additional further reductions to the extent where I would sincerely have to caution the Congress—this is just my personal view—that this Commission would have great difficulty in satisfying the needs of its charge.

I think that user fees can be a very effective way of making sure that much of the money comes from the industry and less from the taxpayer. So from that standpoint, I would not object. I am thinking as a Commissioner.

As a taxpayer, I guess I would applaud any effort to reduce the charges to the taxpayer.

Chairman HATFIELD. Would any of the other Commissioners wish to comment on that question, basically, as to how you feel is the best way to fund your operation?

Commissioner Roberts?

Mr. ROBERTS. I think there is an inimical conflict of interest for the regulated to fund the activities of the regulator. You can hide behind any sort of euphemism you want; this is a tax, it is a tax for ratepayers in nuclear service areas. I think it is a terrible idea.

Chairman HATFIELD. You are saying that, in effect, then, it is not a budgetary matter, it is a philosophical question of the relationship between the regulator and who else?

Mr. ROBERTS. That is a portion of it. I think it is inconceivable that a State public utility commission would not allow this as an allowable expense of the utility, and it goes straight to the ratepayer.

Chairman HATFIELD. Sort of analogous to the old days of the local constable, and that was, he got his salary out of how many fines he collected.

Mr. ROBERTS. I do think there is a conflict, and it is my understanding that no other regulatory body—SEC, ICC—none of these bodies has annual charges. I think it is bad policy, and it is a tax on nuclear ratepayers.

You can color it and put any sort of words or fancy phrases on it, it is a tax on people who are in nuclear service areas.

Chairman HATFIELD. Well, we use the phrase "user fees" very loosely. Then you say a gas tax that builds the roads and, in effect, is a user fee or a waterway diesel fuel tax is to help enhance the waterways.

Do you delineate that type of user fee from what we are talking about here?

Mr. ROBERTS. Yes, because we are a regulatory body, and the Congress decided we were going to have nuclear power. The benefits of nuclear power accrue to all ratepayers.

Chairman HATFIELD. You are not opposed to user fees, per se, but it is only where the user fee is being imposed by an agency that is also a regulator of the payee?

Mr. ROBERTS. Yes.

Chairman HATFIELD. If I phrased it right.

Mr. ROBERTS. Yes.

Chairman HATFIELD. Commissioner Bernthal? You don't have a seniority pecking system, do you? [Laughter.]

Mr. BERNTHAL. We occasionally do.

Mr. ASSELSTINE. Mr. Chairman, I think that it is a good idea to impose some of these fees, and I think that they are justified, particularly if they are tied to a benefit that we provide to the industry. I think if you examine some of our research programs, you will see some benefits that accrue to the industry from these programs. Now, the difficulty you have had in the past is that we can't tie a benefit to a particular plant, and therefore, we have not tried to impose the costs of these programs on the industry. We have tried to work with the industry to develop joint research programs, but by and large, the NRC has paid the large portion—the taxpayer has paid the large portion over the years of these research programs. Some of our research programs are aimed at allowing plants to continue to operate with degraded equipment that is degraded below what we assumed would be the base when the plant was first licensed. That includes cracked pipes and damaged or weakened steam generators in pressurized water reactors.

There are other research programs that are likely to yield a direct economic benefit to the industry in terms of relaxing existing safety requirements. Research would allow us to reduce the need, for example, for certain kinds of maintenance on the plants and certain kinds of testing or allow the licensee to remove certain equipment from the plants thereby reducing the cost of maintenance or replacement over time.

Some of our research may even allow the licensees to operate the plants at higher power levels than they are now authorized to operate at. All of those programs provide a benefit to the industry. It seems to me in those cases where we can identify a particular benefit, that it is useful and, indeed, appropriate to recover some of the costs of those research programs from the industry since they are gaining a benefit from that program.

We may not be able to tie a specific benefit right down to a particular plant, but we can say there is a benefit through the industry for certain types of plants. I think that is a legitimate and reasonable justification for imposing some form of a user fee or charge on the industry on an annual basis. I think the same thing is also true for funding our High Level Waste Repository Program. The Congress made the decision that the cost of developing, building, and operating the high-level waste repository was a legitimate part of the cost of generating electricity from nuclear energy. Therefore, the costs should be borne by the people who derive the financial benefits from nuclear energy. I think the same thing is true for our High Level Waste Repository Program. That program would not exist if it weren't for the Nuclear Power Program and our licensing responsibilities for the repository for the wastes. That is another area where I think it is perfectly legitimate and appropriate for us to recover our costs for the program from the High Level Waste Fund, and, in turn, from the ratepayers.

Chairman HATFIELD. Thank you.

Commissioner Bernthal?

Mr. BERNTHAL. Mr. Chairman, I have to say that I think this does largely come down to a question of policy, and as Commissioner Roberts points out, perhaps ultimately, tax policy. It is a tax in almost any reasonable sense that one can imagine. However, I don't share all of the concerns about the nature and policy advisability of taxing in that manner. I personally find the philosophy of earmarked taxation a very appealing one. I so find it in this case.

I have a number of concerns, however, about the trend that is appearing here. I will point out that in the case of nuclear power now, we already have a tax, if you will, a kilowatt-hour charge to support the Nuclear Waste Policy Act Fund.

It has now been suggested, as well, that such a tax might be imposed on the utilities to support Price-Anderson Act funds.

Now we are looking at the NRC and the possibility of funding a large fraction of our regulatory responsibilities, simply, out of another fee or tax on utilities. At the very least, therefore, it is very important to avoid the kind of conflict that Commissioner Roberts is concerned about, and see to it that those fees go directly to the Treasury for the same reason that the Department of Energy was very concerned; thus the NRC, as all Government agencies are inclined to do, taps into a bottomless resource of funds on its own. It is very important that any funds collected go to the Treasury and then be subject to congressional appropriation, and my understanding is that is the plan.

Finally, I would insist that if we are to embark on this course in the case of nuclear power and there is a trend appearing here, that then it should be a level playing field. I don't even know, in every case, what other regulatory activities of the Government are similarly supported. I would suggest that those of the EPA, in the case of any activities related to coal burning plants,should be looked at; perhaps the activities of FDA, OSHA, and many other agencies, then, should receive similar scrutiny.

So, I have a number of concerns. The philosophical appeal is very great, I must say, but we should make sure that is an even-handed tax on the consumer.

Admiral ZECH. If I may, Mr. Chairman?

Chairman HATFIELD. Commissioner?

Admiral ZECH. If I may respond very briefly?

Chairman HATFIELD. Admiral Zech?

Admiral ZECH. Currently, I believe it has been pointed out that our licensing fees are collected and they essentially go to the Treasury. I presume that under the concept that I have heard about on a user fee, that those fees would also go to the Treasury. So that would mean that NRC would still need a budget under the current process in submitting our needs and requesting that they be satisfied by the Congress.

It comes down to, if we have the user fee, in my view, who pays for it? I presume that the utilities and those who benefit from the utilities, shareholders, the taxpayers, I think, if the fee is allowed to be passed on to the ratepayers, and therefore the taxpayers end up paying.

So the taxpayers benefit on the one hand from what goes to the Treasury, but on the other hand, they very likely are paying as the ratepayers.

Then you say, well, the utility should pay. My only thought on that is, why are we singling out nuclear power? Are other energy sources being treated in the same way? If not, it does seem to me that perhaps there is a conflict here and the regulators are taxing the regulated, which does not seem to me without considerable problems.

Also, will the nuclear utilities themselves be able to sustain the multiple-fee assessments that we hear discussed; for example, user fees, Price-Anderson, possibly other user fees imposed by other agencies?

Therefore, I submit there is a larger question of fairness and equity involved, and perhaps it is something that needs at least further consideration on a national policy basis rather than strictly as a Nuclear Regulatory Commission issue.

Chairman HATFIELD. Well, we may ask you to take a vote one of these days. [Laughter.]

Chairman Palladino?

Mr. PALLADINO. Mr. Chairman, I would like to add two points based on the discussion to this point. I agree that the Commission should not be assessing user fees unless it is for a direct service. The Congress would be doing it.

Also, I would hate to have you left with the impression that our research is all aimed at helping the industry. Actually, our research is to get information, and sometimes it benefits the industry and sometimes it hurts the industry. For example, our work on embrittlement of reactor vessel seals have led to actions that industry had to take. As a matter of fact, the whole concept of emergency core cooling grew out of early research, and that certainly wasn't something particularly to help the industry except insofar as a safe industry is a better industry.

I think our codes that we developed have helped greatly in assuring that the designs do meet the requirements to protect the public health and safety. I just think our program is more balanced than just standing one way or the other.

UNIVERSITY REACTOR CONVERSION PROGRAM

Chairman HATFIELD. Mr. Chairman, you referred to research, so let me ask you, how are we coming along on the effort to limit the use of highly enriched uranium [HEU] in our university research reactors?

Mr. PALLADINO. You know, late last month, near the end of February, we passed a rule on the use of low-enriched uranium, requiring that, subject to available funding, nonpower reactors going to low-enriched uranium may also be subject to developing acceptable low-enriched nuclear fuels.

The issue becomes one of providing the funding to enable the reactors to make this conversion. I think the Congress did provide some funds in 1986. I am not aware of any funds under consideration for 1987.

But I think this is a matter that should be addressed in the forthcoming year, soon; I don't mean, many, many years in the future, but 1987, 1988.

Chairman HATFIELD. And you have a whole new certification process that is in place now?

Mr. PALLADINO. I'm sorry.

Chairman HATFIELD. I said, you have a whole new certification process that is in place relating to the requirements of DOE in this area of limiting the use of HEU in research reactors?

Mr. PALLADINO. We passed our rule that indicates that that is to be used. I am not sure what you mean by the word "certification." Maybe Jim can help.

Chairman HATFIELD. But DOE uses that as part of a base of certification, is that correct? I am not sure I understand actually how you implement the rule.

Mr. ASSELSTINE. Mr. Chairman, the way the rule is set up, the funding to pay for the cost of conversion, principally, is to buy the new fuel for the research reactors, this is an essential precondition to conversion. Under the rule, there is a certification that each of our licensees must provide from the Department of Energy that funding is available to pay for the new fuel. The rule requires about a year from now that each of these research reactor licensees come into the NRC with a plan for how they are going to go about converting to LEV fuel.

If they cannot obtain a certification from DOE that the funding is available, then all they need to tell us is the funding is not available, and they can simply postpone for year after year after year having to convert.

That is because we reached the judgment that you really did need the funding to pay for the new fuel and the cost of conversion. As I understand it, this committee, you, in particular, made efforts in the past to put funding into the DOE budget to pay for the costs of conversion as well as for the developing new types of fuel. As I understand it, the fiscal year 1987 budget proposal from DOE includes no funds to pay for the cost of conversions. If that continues, all these licensees would have to do is come back and tell us, "The funding isn't available and, therefore, we don't need to convert until the funding is available." Funding really is a crucial element in being able to move this program forward. I think the DOE RERTR Program in developing new fuels is moving along quite well. It is now a question of a limited amount of funds. I think our letter estimated $15 million to convert all the plants to carry out that conversion.

Chairman HATFIELD. Commissioner Asselstine, I understand you have some strong views about conversion of university research reactors. We also added some additional money in the fiscal year 1987 budget for conversion. Would you care to briefly outline the status of that?

Mr. ASSELSTINE. That is correct, Mr. Chairman. I think the Commission took a big step forward in putting out this rule and finally saying, at least for university research reactors, that conversion would be required, assuming the availability of this funding.

But the question is, Will the funding be there in the DOE program? I know the funding was put in the fiscal year 1986 in the DOE budget for carrying out the conversion work.

I believe that money was programmed, but I am not real familiar with how DOE handles it. The question is, Will money be there in future years to actually go forward with conversion? The research work to develop the new fuels is moving along very well, and the new fuels are being developed for some of these reactors. They should be available fairly soon. So that really calls into question the financial resources to pay for the conversion costs and the purchase of the fuel.

ADDITIONAL PREPARED QUESTIONS FOR THE RECORD

Chairman HATFIELD. Thank you very much.

There will be additional questions provided for your response. Also, Senator Domenici, Senator McClure, and Senator Burdick have questions as well.

Thank you, again, Mr. Chairman and Commissioners, for your appearance here today. Your testimony has been very helpful.

Mr. PALLADINO. Thank you, Mr. Chairman.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY CHAIRMAN HATFIELD

QUESTION 1: THE PRESIDENT'S 1987 BUDGET REQUEST FOR NRC IS 405,000,000 WHICH IS $5,000,000 OVER THE CURRENT YEAR LEVEL WHEN ADJUSTED FOR GRAMM-RUDMAN.

(A) IS THIS LEVEL ADEQUATE TO CARRY OUT YOUR RESPONSIBILITIES IN AN EFFICIENT MANNER?

ANSWER

THE PRESIDENT'S FY 1987 BUDGET REQUEST LEVEL IS ADEQUATE TO CARRY OUT OUR RESPONSIBILITIES IN AN EFFICIENT MANNER. OUR RESPONSIBILITY TO PROTECT THE PUBLIC HEALTH AND SAFETY AND THE ENVIRONMENT WILL BE FULFILLED AND OUR HIGHEST PRIORITY WILL CONTINUE TO BE THE ASSURANCE OF THE SAFE OPERATION OF LICENSED REACTORS. WITH THE CONSTRAINED FUNDING ENVIRONMENT THAT WE MUST OPERATE UNDER, WE ARE ATTEMPTING TO CONDUCT BUSINESS IN THE MOST EFFICIENT WAY POSSIBLE. IN KEEPING WITH THIS GOAL, WE HAVE INSTITUTED REORGANIZATION ACTIONS AND HAVE DIRECTED OTHERS TO BE PURSUED. SOME OF THESE ARE A REORGANIZATION IN NRR, THE ABOLISHMENT OF OPE, THE CONSOLIDATION OF OUR TWO LEGAL GROUPS (ELD AND OGC), THE CONSOLIDATION OF OUR ADP, DOCUMENT CONTROL, AND TELECOMMUNICATION FUNCTION, AND THE CONSOLIDATION OF THE NRC BUILDING FACILITIES IN THE METRO WASHINGTON, D.C. AREA.

QUESTION 1. (B) WHAT IMPACT WILL THE $18 MILLION GRAMM-RUDMAN REDUCTION HAVE ON YOUR PROGRAMS? WHAT EFFECT WILL THESE REDUCTIONS HAVE ON NRC EMPLOYMENT LEVELS?

ANSWER.

ON APRIL 14, 1986 THE COMMISSION REQUESTED APPROVAL TO REPROGRAM, TO ADJUST THE AMOUNTS UNIFORMALLY SEQUESTERED BY THE BALANCED BUDGET AND EMERGENCY DEFICIT CONTROL ACT OF 1985, P.L. 99-177. THE IMPACTS

OF THE RESOURCE REDUCTIONS ARE DETAILED IN THE REPROGRAMMING REQUEST.

A COPY OF OUR APRIL 14, 1986 REQUEST IS ATTACHED.

U. S. NUCLEAR REGULATORY COMMISSION
SECOND FY 1986 REPROGRAMMING REQUEST
(Dollars in Thousands)

		P.L. 99-177[1]			
Program	Revised Base 12/31/85	Sequestered Amounts	Changes to Sequestered Amounts	NRC Planned Reductions	Revised Base
Nuclear Reactor Regulation (NRR)	$ 83,760	$- 3,478	$+ 478	$- 3,000	$ 80,760
Nuclear Material Safety & Safeguards (NMSS)	40,970	- 1,705	- 35	- 1,740	39,230
Inspection and Enforcement (IE)	98,240	- 4,075	+ 1,565	- 2,510	95,730
Nuclear Regulatory Research (RES)	134,710	- 5,665	- 3,299	- 8,964	125,746
Program Technical Support (PTS)	30,290	- 1,261	+ 521	- 740	29,550
Program Direction and Administration (PDA)	43,342	- 1,790	+ 770	- 1,020	42,322
TOTAL	$431,312	$-17,974	$ -0-	$-17,974	$413,338

[1] The NRC received instructions from OMB (reference OMB Bulletin No. 86-7) that specified that uniform reductions (4.3 percent) against NRC's appropriation must be taken below the account level to be in compliance with the President's order implementing provisions of the Balanced Budget and Emergency Deficit Control Act of 1985 (P.L. 99-177). These uniform reductions are specified in the above column titled "Sequestered Amounts".

The uniform reductions required in implementing P.L. 99-177 did not provide for appropriate management evaluation of agency priorities. As such, to minimize the impact on high priority efforts, the NRC has conducted a review of its FY 1986 programs and priorities. The results of that review resulted in reductions to accommodate P.L. 99-177 as shown in the column titled "NRC Planned Reductions". The specific impacts that will result from these reductions are detailed on the following pages.

The NRC is requesting reprogramming approval to change the amounts sequestered under P.L. 99-177. The column titled "Changes to Sequestered Amounts" represents the amount to be reprogrammed. It is the net change from the amount sequestered to the amount of the planned reduction.

Explanation of "NRC Planned Reductions" to implement P.L. 99-177:

The major program impacts resulting from these reductions are as follows:

NRR

Reduce program support for conducting unanticipated generic safety studies for reactor license applicants and for reviewing operating reactor licensing actions. About 120 fewer licensing actions will be completed. Eliminate contract support for developing criteria and reviewing advanced reactor concepts in FY 1986.

NMSS

Eliminate the program support in developing the decommissioning policy for uranium mills thereby delaying NRC reviews of anticipated license amendment applications by about one year. Also, NRC's ability to identify and resolve potential long lead time high level waste repository licensing issues will be reduced.

IE

Reductions in program support will: delay by about six months the verification of licensee implementation of environmental qualification of equipment; reduce NRC's ability to monitor licensee's activities related to their vendor-suppliers; reduce NRC's Aerial Measurement Program by 25 percent; delay the procurement of replacement equipment for environmental sample analysis by about one year; reduce support to emergency preparedness exercises and annual inspections by 20 percent; and reduce support for incident response studies.

RES

Reductions in program support will result in several activities being cancelled or delayed. Activities being terminated are: (1) international workshops in the area of thermal hydraulic transients, resulting in delays in evaluating foreign test results; (2) work to evaluate survivability of electrical equipment during severe accidents, meaning that the NRC will not have an improved technical base for evaluating industry qualification plans; (3) work to evaluate non-linear effects of large earthquakes on plant structures, meaning that the uncertainty in seismic margin estimates at operating plants will not be reduced; (4) separate effects fission product release experiments, with the result that the existing uncertainties in implementing the Severe Accident Policy will remain; (5) guidance on the effectiveness of physical security systems; (6) the pilot-program for severe accident management in boiling water reactors, resulting in the suspension of efforts to assess the impact on accident management strategies; and (7) health effects and radiation protection work, resulting in a significant stretch-out of the revision of 10 CFR Part 20 and a greater reliance on EPA in such areas as residual activity for decommissioning.

Activities being delayed or reduced include: (1) reduce Semiscale Test Facility maintenance, resulting in no operational U. S. Integral Test Facility for about a nine month period; (2) defer work on Two-Phase Flow Analyses and delay the Nuclear Plant Analyzer Program; (3) slow the study of the fatigue problem in steels, delaying NRC from obtaining a more quantified measure of aging and certainty in the basis for vessel requalification; and (4) delay until FY 1987 the resolution, documentation, and understanding of the extent of the MEER seismic fault in Oklahoma.

PTS

Reduce program support for providing training assistance to the states and for conducting special studies of operational experience. This will result in canceling lower priority training courses and lower priority studies of operational experience. Also, some limited savings will be realized due to lower cost estimates for transcription service contracts.

PDA

Reductions to program support will result in fewer cost studies being performed on proposed NRC regulations.

Salaries and Benefits

The reduction to salaries and benefits will be accommodated by a reduction in staff years (FTE's) used in FY 1986. This reduction to salaries and benefits will not require a reduction-in-force or furlough of staff in FY 1986.

Administrative Support

The reduction in housekeeping costs will be accommodated by curtailing and/or delaying many activities such as; (1) reduce the number of copier machines and eliminate one copy center; (2) stretch out the security clearance process, (3) eliminate the purchase of most furniture; (4) reduce the services provided by the document control system; (5) reduce guard services, which will affect building access controls; (6) reduce training activities; (7) reduce ADP timesharing which will delay the development of the corporate data network; (8) postpone planned additional office space in the regional offices; and (9) eliminate the purchase of mechanized filing equipment. In addition, some savings have resulted from more current estimates of the cost of some purchases and activities.

QUESTION 2. THE 1987 FUNDING REQUEST FOR NUCLEAR REGULATORY RESEARCH IS $113.5 MILLION, A REDUCTION OF 16% BELOW THE APPROPRIATION LEVEL FOR 1986, AND 12% BELOW THE GRAMM-RUDMAN ADJUSTED FUNDING LEVEL.

(A) WHAT WILL BE THE IMPACT OF THE REDUCTION FROM THE CONGRESSIONAL APPROPRIATED LEVEL OF $134.7 MILLION TO GRAMM-RUDMAN LEVEL OF $129 MILLION?

(B) HOW WILL A FURTHER REDUCTION OF $15.5 MILLION BELOW THE GRAMM-RUDMAN LEVEL FOR 1986, WHICH IS PROPOSED IN THE 1987 BUDGET, IMPACT REGULATORY RESEARCH ACTIVITIES?

ANSWER.

(A) THE COMMISSION, IN ITS REPROGRAMMING REPORT TO THE CONGRESS IS PROPOSING A FUNDING REDUCTION FOR NUCLEAR REGULATORY RESEARCH OF $8.7 MILLION FOR GRAMM-RUDMAN IN FY 1986. THE IMPACTS FOR THESE REDUCTIONS ARE PROVIDED IN THE RESPONSE TO QUESTION 1.(B).

(B) SEE THE RESPONSE TO QUESTION 20.

QUESTION 2: (C) GIVEN THE SIZABLE REDUCTION IN THE REGULATORY RESEARCH PROGRAM OVER THE PAST FEW YEARS, WHY DO YOU FEEL ANOTHER SIGNIFICANT CUT BELOW THE 1986 LEVEL IS WARRANTED?

ANSWER

THE NRC RELUCTANTLY REDUCED THE NUCLEAR REGULATORY RESEARCH PROGRAM IN FY 1987 AS IT WAS CONFRONTED WITH A PRESIDENT'S ALLOWANCE REDUCING FUNDING BY $13 MILLION BELOW OUR FY 1986 APPROPRIATION (BEFORE THE GRAMM-RUDMAN REDUCED LEVELS) AND REDUCING STAFFING CEILING BY 122 FULL-TIME EQUIVALENT STAFF. FOR THE NRC, THE FY 1987 PRESIDENT'S BUDGET REPRESENTED A MINIMUM PROGRAM AND THE AGENCY HAD TO PROVIDE FOR ITS HIGHEST PRIORITY

FUNCTIONS DIRECTLY RELATED TO THE PROTECTION OF PUBLIC HEALTH AND SAFETY. THEREFORE, THE NRC FIRST HAD TO PROVIDE FOR THE REGULATORY ACTIVITIES ASSOCIATED WITH THOSE NUCLEAR FACILITIES THAT ARE CURRENTLY LICENSED TO OPERATE OR ARE UNDER LICENSING REVIEW.

DESPITE THESE PRIORITY EFFORTS AND ASSOCIATED RESEARCH REDUCTIONS, NRC HAS ATTEMPTED TO PROVIDE FOR A STABLE, PROPERLY BALANCED RESEARCH PROGRAM IN FY 1987, WITH EMPHASIS ON SAFETY AT OPERATING FACILITIES.

QUESTION 3: THE BUDGET JUSTIFICATION INDICATES THAT SOME SAFETY AND ACCIDENT ACTIVITES WILL BE DEFERRED OR TERMINATED UNDER THE $11.8 MILLION REQUESTED FOR REACTOR OPERATION AND RISK PROGRAMS IN 1987.

WILL THE PROPOSED REDUCTION HAVE A SIGNIFICANT ADVERSE IMPACT ON PUBLIC HEALTH AND SAFETY IN YOUR JUDGMENT?

ANSWER

THE BUDGET REQUESTED FOR THE RISK ANALYSIS AND OPERATIONS PROGRAM WILL FOCUS ON THOSE PROGRAMS WHICH SUPPORT THE HIGHEST PRIORITY COMMISSION OBJECTIVES. CONSEQUENTLY, WE DO NOT ANTICIPATE THAT THE REDUCTIONS TAKEN IN THIS PROGRAM IN FY 87 WILL HAVE A SIGNIFICANT, ADVERSE IMPACT ON THE HEALTH AND SAFETY OF THE PUBLIC.

QUESTION 4: HOW MUCH FUNDING IS INCLUDED IN THE 1987 BUDGET TO SUPPORT ACTIVITIES RELATED TO THE NUCLEAR WASTE POLICY ACT OF 1982? PROVIDE A DETAILED BREAKOUT FOR THE RECORD.

ANSWER

THE FUNDING INCLUDED IN THE NRC'S FY 1987 BUDGET TO SUPPORT ACTIVITIES RELATED TO THE NUCLEAR WASTE POLICY ACT OF 1982 IS AS FOLLOWS:

	Funding Category ($ in millions)			
Program	Program Support	Salaries and Benefits	Administrative Support & Travel	Total
Nuclear Material Safety and Safeguards	$ 8.8	$ 6.1	$ 2.6	$17.5
Nuclear Regulatory Research	3.0	0.8	0.3	4.1
Inspection and Enforcement	0.5	0.4	0.2	1.1
Program Technical Support	0.1	0.8	0.3	1.2
Total	$12.4	$ 8.1	$ 3.4	$23.9

QUESTION 5: LAST YEAR YOU INDICATED THAT FY 86 BUDGET LIMITATIONS COULD DELAY DOE'S INITIATION OF SHAFT CONSTRUCTION AND SITE WORK AND AN ADDITIONAL "$1.8 MILLION IS NECESSARY TO INSURE THAT WE MAINTAIN PACE WITH THE NATIONAL PROGRAM." THE ADDITIONAL FUNDING WAS NOT PROVIDED, IN FACT I BELIEVE THE FUNDING WAS REDUCED SLIGHTLY FOR THE ACTIVITY. WHAT WAS THE IMPACT, IF ANY, ON YOUR SITE RELATED ACTIVITIES? WAS THE DOE PROGRAM DELAYED, AND IF SO, HOW MUCH?

ANSWER

REDUCED FUNDING FOR NRC IMPOSED NO ADVERSE IMPACT ON NRC SITE RELATED ACTIVITIES. DELAYS IN THE DOE PROGRAM ALLOWED NRC, WITH AVAILABLE RESOURCES, TO KEEP PACE WITH THE NATIONAL PROGRAM. SINCE NRC SUBMITTED ITS FY86 BUDGET REQUEST, DOE SITE ACTIVITY SCHEDULES, AS REFLECTED IN THE DOE BUDGET REQUESTS AND IN THE PRELIMINARY DRAFT AND THE DRAFT PROJECT DECISION SCHEDULES, HAVE BEEN REVISED SEVERAL TIMES. DOE HAS EXPERIENCED DELAYS IN THIS PROGRAM.

QUESTION 6: DOES THE FUNDING REQUEST FOR 1987 MAINTAIN THE TIME SCHEDULES AND MILESTONES ESTABLISHED BY THE NUCLEAR WASTE POLICY ACT?

ANSWER

THE SCHEDULE AND MILESTONES TO MEET REQUIREMENTS MANDATED BY THE NWPA FOR PARTICIPATING FEDERAL AGENCIES, STATES, AND INDIAN TRIBES HAVE BEEN LAID OUT BY DOE IN THE DRAFT PROJECT DECISION SCHEDULE (PDS). THE NRC FUNDING REQUEST FOR 1987 MAINTAINS THE TIME SCHEDULES AND MILESTONES IN DOE'S DRAFT PDS. DOE PLANS TO ISSUE THE FINAL PDS IN APRIL 1986. NRC WILL REVIEW THE FINAL PDS TO DETERMINE WHETHER RESOURCES BUDGETED FOR FY87 ARE ADEQUATE TO MEET ITS ASSIGNED RESPONSIBILITIES AND SCHEDULES. IF NOT, NRC WILL ADJUST INTERNAL PRIORITIES, AS PRACTICABLE, TO DO SO.

QUESTION 7: PROVIDE FOR THE RECORD A TABLE WHICH SHOWS MAJOR NRC MILESTONES MANDATED BY NWPA, THE ESTIMATED COMPLETION DATE; AND IF DIFFERENT, A BRIEF EXPLANATION OF WHY.

ANSWER

ATTACHED IS A TABLE WHICH SHOWS MAJOR NRC MILESTONES MANDATED BY THE NWPA. THE TABLE SHOWS THE DATES SPECIFIED BY THE NWPA AND THE ESTIMATED COMPLETION DATES. A BRIEF EXPLANATION IS GIVEN FOR DIFFERENCES IN THE NWPA AND ESTIMATED DATES.

I. NRC Role in Repository Development Program

Provision	NWPA Date	Current Schedule	NRC Role
1. Section 112(a)-Siting Guidelines promulgated by DOE in which NRC concurs.	7/6/83	Completed	NRC must concur in DOE Guidelines. 12/84 Action Taken After review and comment on draft DOE guidelines in early 1983, NRC received final siting guidelines on November 23, 1983. NRC held oral presentations on January 11, 1984, and public comments were received through February 1, 1984. On February 29, the Commission gave tentative endorsement to the guidelines and stated that they would concur on the guidelines provided seven conditions were met. Following six meetings between DOE and NRC staff to resolve these conditions, final siting guidelines were received by NRC on May 15, 1984. The Commission voted to concur on the guidelines on June 22, 1984. Current Status- DOE published the final guidelines on December 6, 1984. On December 24, 1984, the staff forwarded a paper to the Commission (SECY-84-482) recommending that the Commission does not have to concur in the supplementary information to the final guidelines. The Commission approved this recommendation.
2. Section 121(b)-NRC must promulgate technical requirements and criteria.	1/1/84	Promulgated 6/21/83	NRC must issue regulations which specify the technical requirements and criteria for the repository. Current Status- The regulations, which were under development by the staff for several years, were published in the Federal Register on June 21, 1983 (48 FR 28194).
3. Section 121(a)-EPA final high-level waste standards promulgated.	1/7/84	Promulgated 9/19/85	Section 121(b) regulations and criteria must be revised by the Commission, if necessary, to comply with standards being prepared by EPA. Actions Taken- NRC's comments on the proposed standards were transmitted to EPA on May 10, 1983. Current Status- EPA final high-level waste standards were signed on August 15, 1985, published in the Federal Register on Thursday, September 19, 1985 (50 FR 38066), and became effective November 18, 1985. NRC staff reviewed its high-level waste criteria (10 CFR Part 60) for conformance with EPA standards, and provided a proposed rule (SECY-86-92) to the EDO and the Commission on March 21, 1986.
4. Section 114(e)-DOE Project Decision Schedule.	None Specified	Draft received on July 18, 1985	NRC must coordinate with DOE on the development of the Project Decision Schedule. DOE submitted a preliminary draft Project Decision Schedule for NRC comment on January 15, 1985. NRC comments were transmitted to DOE on March 4, 1985 (JGDavis to BCRuche). DOE issued the Draft Project Decision Schedule July 18, 1985. Current Status- NRC comments were forwarded to the Commission from EDO on August 21, 1985 for approval and submittal to DOE by September 13, 1985. The Commission approved the comments with modifications on September 19, 1985, and the final comments were transmitted to DOE on October 24, 1985. The final PDS is expected in April 1986.

Provision	NWPA Date	Current Schedule	NRC Role
5. Sections 216(a) and 301(b)- Draft Mission Plan published by DOE.	4/7/84	Published 5/84	NRC must coordinate with DOE on the development of the Mission Plan, and specify, with precision, any objections to the Plan. NRC received a preliminary draft on December 23, 1983 and sent comments directly to DOE on February 8, 1984. The draft Mission Plan required by the Act was released by DOE on May 8, 1984 and forwarded to NRC for review and comment by July 9, 1984. DOE briefed the Commission on the draft Mission Plan on June 27, 1984. Staff comments were signed by the Chairman and forwarded to DOE on July 31, 1984.
6. Section 301(b)-Submission of DOE Mission Plan to Congress.	6/7/84	Completed on July 9, 1985	Following Congressional approval of the Mission Plan, NRC will, wherever necessary, conform its waste management program planning guidance to the Plan. Current Status- DOE submitted the Final Mission Plan to Congress on July 9, 1985. NRC testified before the Senate Committee on Energy and Natural Resources concerning the Mission Plan on September 12, 1985; before the House Subcommittee on Energy and the Environment on Friday, September 13, 1985; before the Senate Subcommittee on Nuclear Regulation on October 30, 1985; and before the House Subcommittee on Energy Research and Production on November 6, 1985. The staff intends to forward its comments to DOE for updates to the Mission Plan.
7. Section 117(a)-Provision of information to States/Tribes.	In a timely manner	Ongoing	NRC must provide timely and complete information regarding its determinations or plans made regarding siting, development, or design for licensing, construction, operation, regulation, or decommissioning. NRC has been holding meetings with State and Tribal officials to exchange information. The Commission met with State and Tribal officals on September 6, 1985, to receive their views on the DOE timing of preliminary determination of site suitability [Section 114(f)]; and also, at the request of States/Tribes, on January 24, 1986 to discuss States/Tribes views on changes to 10 CFR Part 60 (SECY-85-333).
8. Section 112(b)-DOE recommends to the President 3 sites for characterization for first repository. Each of the 5 sites initially nominated for characterization must be accompanied by an Environmental Assessment.	1/1/85	Site recommendation 4/86	DOE will develop draft EA's on sites under consideration for nomination after Commission concurrence on the siting guidelines. NRC staff intends to review and comment on EA's. DOE issued draft Environmental Assessments for nine potential repository sites on December 20, 1984, and proposed to recommend sites in Nevada, Texas, and Washington for characterization. The NRC review was completed on March 20, 1985. Current Status- According to the Draft Project Decision Schedule, DOE had planned to publish final EAs and nominate and recommend sites in November 1985. However, on 10/30/85, DOE announced that the final EAs and site recommendation would be delayed until late 2/86 to accomodate for the NAS review of the ranking methodology. The EAs are now expected 4/86.

PROVISION	NWPA DATE	CURRENT SCHEDULE	NRC ROLE
9. SECTION 8-PRESIDENT MUST EVALUATE THE POSSIBILITY OF DEVELOPING A DEFENSE-WASTE ONLY REPOSITORY.	1/7/85	COMPLETED ON 4/30/85	DOE SUBMITTED A FINAL REPORT TO THE PRESIDENT IN FEBRUARY 1985, RECOMMENDING A COMBINED COMMERCIAL AND DEFENSE REPOSITORY. ON APRIL 30, 1985, THE PRESIDENT FOUND NO BASIS THAT A DEFENSE-ONLY REPOSITORY IS NEEDED AND AGREES WITH DOE RECOMMENDATION OF COMBINED REPOSITORY.
10. SECTION 113(B)-SUBMISSION TO NRC BY DOE OF SITE CHARACTERIZATION PLAN (SCP), WASTE FORM OF PACKAGE DESCRIPTION, AND CONCEPTUAL REPOSITORY DESIGN FOR EACH SITE	BEFORE SINKING SHAFTS	TBD TBD	NRC MUST REVIEW AND COMMENT ON THE SUBMITTED MATERIALS. CURRENT STATUS-DOE TENTATIVE SCHEDULES FOR SCP SUBMITTAL ARE: BWIP AND NNWSI IN DECEMBER 1986, AND SALT IN APRIL 1987. NRC PLANS TO SUBMIT COMMENTS (SITE CHARACTERIZATION ANALYSIS) 5 MONTHS AFTER THE SCPS ARE ISSUED. SHAFT CONSTRUCTION IS TENTATIVELY SCHEDULED TO BEGIN IN SUMMER 1987 FOR BWIP AND NNWSI, AND FALL 1987 FOR SALT.
11. SECTION 114(A)(1)(E)-DOE SUBMITS TO THE PRESIDENT AND THE PUBLIC THE COMMISSION'S PRELIMINARY COMMENTS CONCERNING AT-DEPTH SUFFICIENCY FOR DOE CONSTRUCTION		PRIOR TO #13, BELOW	PRIOR TO NUMBER 13 BELOW NRC MUST PROVIDE PRELIMINARY COMMENTS ON WHETHER THE AT SITE CHARACTERIZATION ANALYSIS AND WASTE FORM PROPOSAL IS SUFFICIENT FOR INCLUSION IN THE DOE CONSTRUCTION AUTHORIZATION APPLICATION.
12. SECTION 114(A)(1)(D)-DOE'S FINAL ENVIRONMENTAL IMPACT STATEMENT (EIS) ON THE FIRST PROPOSED REPOSITORY MUST INCLUDE COMMENT FROM NRC ON THE DRAFT EIS.	PRIOR TO 13, BELOW	12/90	NRC MUST REVIEW AND COMMENT ON THE DRAFT EIS, WHICH IS SCHEDULED TO BE ISSUED 6/90. NRC IS ALLOWED 3 MONTHS FOR REVIEW AND COMMENT, BUT HAS REQUESTED 5 MONTHS (IN DRAFT PDS COMMENTS) TO ALLOW FOR COMMISSION INVOLVEMENT AND FOR CONSULTATION WITH HOST STATES AND AFFECTED INDIAN TRIBES.
13. SECTION 114(A)(2)-PRESIDENT RECOMMENDS ONE SITE TO CONGRESS FOR CONSTRUCTION.	MARCH 31, 1987 (MAY BE EXTENDED ONE YEAR IF NECESSARY)	3/91	N/A
14. SECTIONS 116(B) AND 118(A)-SUBMISSION OF NOTICE OF DISAPPROVAL BY STATE OR INDIAN TRIBE.	MAY 30, 1987 (OR MAY 30, 1988 IF #13 IS EXTENDED)	1991	N/A; SEE 15 BELOW
15. SECTION 115(G)-CONGRESS MAY OBTAIN ANY COMMENTS OF THE COMMISSION WITH RESPECT TO A STATE/TRIBAL SITE DISAPPROVAL.	PRIOR TO 16.	PRIOR TO 16, BELOW	NRC MUST BE COGNIZANT OF STATE/TRIBAL CONCERNS TO BE ABLE TO PROVIDE KNOWLEDGEABLE COMMENTS TO CONGRESS.
16. SECTION 115(C)-STATE/TRIBAL DISAPPPROVAL WILL TAKE EFFECT UNLESS BOTH HOUSES OF CONGRESS PASS RESOLUTION OF APPROVAL WITH IN 90 CALENDER DAYS OF CONTINUOUS SESSION	(OR 8/88 IF #13 IS EXTENDED)	ABOUT 8/87	1991 N/A; SEE 15 ABOVE

PROVISION	NWPA DATE	CURRENT SCHEDULE	NRC ROLE
17. SECTION 114(A)(3)-WITHIN 1 YEAR AFTER DISSAPPROVAL, THE PRESIDENT MUST RECOMMEND AN ALTERNATIVE SITE FOR THE FIRST OR A SUBSEQUENT REPOSITORY.	8/88 (OR 8/89)	1992	ROLE SIMILAR TO INITIAL SITE RECOMMENDATION. SEE EVENTS 11-15, ABOVE.
18. SECTION 114(B)-SECRETARY SUBMITS CONSTRUCTION AUTHORIZATION APPLICATION (I.E. LICENSE APPLICATION) TO NRC.	8/87 (OR 8/88)	5/91	AN NRC LICENSING PROCEEDING WILL BE INITIATED ON THE LICENSE APPLICATION.
19. SECTION 114(C)-NRC MUST SUBMIT STATUS REPORT TO CONGRESS.	ONE YEAR AFTER SUBMITTAL OF THE LICENSE APPLICATION AND ANNUALLY THEREAFTER.	5/92	NRC MUST SUBMIT AN ANNUAL STATUS REPORT ON THE PROGRESS OF THE LICENSING PROCEEDING TO CONGRESS.
20. SECTION 114(D)-COMMISSION MUST ISSUE DECISION ON CONSTRUCTION AUTHORIZATION (CA) FOR FIRST REPOSITORY.	1/1/89 OR 3 YEARS AFTER APPLICATION SUBMITTED, OR 4 YEARS AFTER SUBMITTAL (IF EXTENDED)	8/93	THE 3 YEAR TIME PERIOD FOR AN NRC LICENSING DECISION DICTATES AN AGGRESSIVE PROGRAM OF INVOLVEMENT WITH DOE AND STATES/TRIBES PRIOR TO RECEIPT OF A LICENSE APPLICATION SO AS TO IDENTIFY AND RESOLVE CONTENTIOUS ISSUES TO THE MAXIMUM EXTENT PRACTICABLE. COMMISSION WILL EITHER GRANT OR DENY AUTHORIZATION FOR DOE TO BEGIN CONSTRUCTION OF THE FIRST GEOLOGIC REPOSITORY. TO MEET THIS SCHEDULE, A RELATIVELY COMPLETE, GOOD QUALITY DOE APPLICATION WILL BE REQUIRED. IN THE DRAFT PDS, DOE HAS REDUCED THE REFERENCE ASSUMPTION ON THE DURATION OF THIS ACTION FROM 3 YEARS TO 27 MONTHS. NRC BELIEVES THAT 36 MONTHS FOR A LICENSING DECISION IS A VERY OPTIMISTIC ESTIMATE AND HAS IDENTIFIED VARIOUS MEASURES BY WHICH BOTH NRC AND DOE CAN FACILITATE THE 36 MONTHS LICENSE REVIEW SCHEDULE BY RESOLVING ISSUES EARLY.
21. SECTION 112(B)(1)(C)-SECRETARY MUST RECOMMEND 3 SITES FOR CHARACTERIZATION TO PRESIDENT FOR SECOND REPOSITORY.	7/1/89	10/91	SAME AS EVENT 8 ABOVE. CURRENT STATUS- NRC REVIEW OF THE DOE CRYSTALLINE PROGRAM IS CONTINUING AT A MINIMAL LEVEL OF EFFORT THROUGH FY88. DOE ISSUED THE AREA RECOMMENDATION REPORT (ARR) ON JANUARY 16, 1986, WHICH IDENTIFIED 12 POSSIBLE SECOND REPOSITORY SITES. DOE IS CURRENTLY CONDUCTING PUBLIC HEARINGS CONCERNING THE SECOND REPOSITORY.
22. SECTION 114(A)(2)(A)-PRESIDENT MUST RECOMMEND TO CONGRESS 1 SITE, FROM SITES ALREADY CHARACTERIZED, FOR SECOND REPOSITORY.	3/31/90 (MAY BE EXTENDED ONE YEAR).	3/98	SAME AS EVENTS 10, 11, AND 12 ABOVE.
23. SECTION 114(B)-SUBMISSION OF CONSTRUCTION AUTHORIZATION APPLICATION TO NRC FOR SECOND REPOSITORY.	ABOUT 11/90	5/98	NRC WILL INITIATE LICENSING PROCEEDING FOR SECOND REPOSITORY.

PROVISION	NWPA DATE	CURRENT SCHEDULE	NRC ROLE
24. SECTION 114(D)-COMMISSION MUST ISSUE DECISION ON ISSUING CONSTRUCTION AUTHORIZATION FOR SECOND REPOSITORY.	1/1/92 OR 3 YEARS AFTER APPLICATION SUBMITTED, OR 4 YEARS AFTER SUBMITTAL IF EXTENDED.	8/2000	3 YEAR TIME PERIOD FOR NRC DECISION DICTATES AN ACTIVE PROGRAM OF INVOLVEMENT WITH DOE, STATES/TRIBES PRIOR TO RECEIPT OF APPLICATION TO IDENTIFY AND RESOLVE CONTENTIOUS ISSUES TO THE MAXIMUM EXTENT PRACTICABLE. TO MEET THIS SCHEDULE, A RELATIVELY COMPLETE, GOOD QUALITY DOE APPLICATION WILL BE REQUIRED.

II. NRC'S ROLE IN THE TEST AND EVALUATION FACILITY PROGRAM

PROVISION	NWPA DATE	CURRENT SCHEDULE	NRC ROLE
25. SECTION 213(A)- DOE IS AUTHORIZED BUT NOT REQUIRED TO ISSUE T&E FACILITY SITING GUIDELINES	7/7/83	DOE HAS NOT ANNOUNCED	CURRENT STATUS- NO GUIDELINES HAVE BEEN ISSUED. NRC WILL PROVIDE THE REQUIRED CONSULTATION IF AND WHEN THE GUIDELINES ARE ISSUED.
26. SECTION 216(A)-TEF COOPERATION AND COORDINATION.	NONE SPECIFIED		NRC SHALL ASSIST THE SECRETARY BY COOPERATING AND COORDINATING ON ANY REPORTS UNDER TITLE II. CURRENT STATUS- NO ACTION TAKEN. DOE PLANNING TO MAKE A DETERMINATION ON A COLLOCATED TEF IN FY87.
27. SECTION 217(F)(1)-NRC, DOE MUST CONCLUDE WRITTEN AGREEMENT ON PROCEDURES FOR T&E FACILITY INTERACTION.		1988	NRC MUST WORK WITH DOE IN DEVELOPING A WRITTEN AGREEMENT FOR PROCEDURES REVIEW, CONSULTATION, AND COORDINATION IN THE PLANNING, CONSTRUCTION AND OPERATION OF THE T&E FACILITY. SUCH AN UNDERSTANDING SHALL ALSO ESTABLISH THE TYPES OF REPORTS AND OTHER INFORMATION AS THE COMMISSION MAY REASONABLY REQUIRE TO EVALUATE HEALTH AND SAFETY IMPACTS OF THE T&E FACILITY CURRENT STATUS- NO AGREEMENT HAS BEEN REACHED. DOE REPORTED TO CONGRESS ON APRIL 6, 1984 THEIR DECISION THAT IF A TEF IS NECESSARY, IT SHOULD BE COLLOCATED, BUT THAT THE DECISION ON THE NEED FOR A TEF IS BEING DELAYED UNTIL THE PROGRAM'S DATA NEEDS ARE BETTER ESTABLISHED, NOW PLANNED FOR LATE 1987.
28. SECTION 217(F)(3)(A)-NRC SHALL CARRY OUT A CONTINUING ANALYSIS OF THE T&E ACTIVITIES TO EVALUATE THE ADEQUACY OF THE CONSIDERATION OF PUBLIC HEALTH AND SAFETY ISSUES.	NONE SPECIFIED		AS PROVIDED
29. SECTION 217(F)(3)(B)-NRC REQUIRED TO REPORT TO THE SECRETARY, THE PRESIDENT, AND THE CONGRESS AS IT DEEMS APPROPRIATE.	NONE	SPECIFIED	AS PROVIDED
30. SECTION 217(H)-NRC MUST CONCUR ON DECONTAMINATION AND DECOMMISSIONING OF DOE'S T&E FACILITY.	FIVE YEARS AFTER INITIAL OPERATION		NRC WILL EVALUATE DOE'S DECONTAMINATION AND DECOMMISSIONING ACTIVITIES, AND CONCUR, IF DEEMED APPROPRIATE FOR A T&E FACILITY NOT LOCATED AT THE SITE OF REPOSITORY.

III. NRC's Role for Interim Spent Fuel Storage

Provision	NWPA Date	Current Schedule	NRC Role
31. Section 132-The Secretary, the Commission, and other authorized Federal officials shall each take such actions as such officials consider necessary to encourage and expedite the effective use of available storage, and necessary additional storage, at the site of each civilian nuclear power reactor.	No specific dates		The Commission will consider which actions are necessary to implement the intent of this provision.
32. Section 134-Hybrid procedures are prescribed for hearings on certain applications for licenses for facility expansions of spent fuel storage and transshipments of spent fuel.	No specific dates, but applicable capacity filed after 1/07/83	Final rule published 10/15/85	A proposed rule establishing procedures for expansion of onsite spent fuel storage capacity or transshipment of fuel was published on December 5, 1983. Comment period was extended to February 20, 1984. A final rule was submitted to the Commission on July 8, 1985. Current Status - The Commission approved the final rule on September 5, 1985, and the final edited rule was published in the Federal Register on Tuesday, October 15, 1985 (50 FR 41662).
33. Section 135(g)-Issuance of NRC proposed rule establishing procedures and criteria for making a determination that onsite storage cannot reasonably be provided at a reactor that the person owning and operating the reactor is diligently pursuing licensed alternatives to the use of Federal storage capacity.	4/7/83	Final criteria completed on 2/11/85	As provided. A proposed rule was published April 29, 1983. Comments received during the public comment period which ended June 28, 1983 published have been reviewed. Final criteria were submitted to the Commission on November 7, 1984. The criteria were approved by the Commission on January 16, 1985. Current Status- The final rule, 10 CFR Part 53, was published February 11, 1985 establishing procedures and criteria for making NRC's determination that a utility is eligible to contract with DOE for Federal interim storage capacity.
34. Section 135(a)-If the NRC determines that onsite storage cannot reasonably be provided at a reactor by the licensee DOE may, under certain conditions, provide not more than 1900 metric tons of capacity for storage of spent nuclear fuel from civilian power reactors.	Not specific		NRC will make public health and safety determinations as to the use of any existing DOE facility for spent fuel storage and will license storage in new structures, including modular or mobile spent nuclear fuel storage equipment such as dry casks, as required under this provision of the Act.
35. Section 137(a)-Transportation of spent nuclear fuel to a DOE storage facility shall be subject to licensing and regulation by NRC and by the Department of Transportation.	Not specific		NRC is required to review DOE's applications for shipment and make licensing determinations for health and safety and safeguards. Three NRC staff members attended a DOE-sponsored workshop November 19-21, 1985, to discuss planning for transportation under the provisions of the NWPA. DOE issued the draft Transportation Institutional Plan in September 1985, with comments due to DOE by 12/31/85. NRC transmitted formal comments (Cunningham to Philpot) on January 7, 1986. The final Transportation Institutional Plan is expected in April 1986. DOE also issued the draft Transportation Business Plan in August 1985; NRC had no formal comments. The final Transportation Business Plan was issued by DOE on February 10, 1986.

Provision	NWPA Date	Current Schedule	NRC Role
36. Section 137(b)-DOE, in providing for the transportation of spent nuclear fuel under this Act, shall utilize by contract private industry to the fullest extent possible in each aspect of such transportation.	Not specific		NRC will be required to review the private contractor's application for shipment, and make licensing decisions for health and safety and safeguards. Regulations may, at a future date, be modified or revised to conform with DOE's repository program.
37. Section 218(a) and 133-NRC shall by rule establish procedures for the licensing of any technology approved by the NRC for use at the site of any civilian nuclear power reactor. NRC may by rule approve one or more dry spent fuel storage technologies for use at the sites of civilian power reactors without, to the maximum extent practicable, the need for additional site specific approvals.	Not specific		NRC, using data and information from DOE dry storage demonstration and cooperative programs, will develop regulations to approve dry technology storage at civilian nuclear power reactors without, to the maximum extent practicable, the need for additional site specific approvals by the NRC.
38. Section 216(a)-Interim Spent Fuel Storage Cooperation and Coordination.	None specified		NRC shall assist the Secretary by cooperating and coordinating on any reports under Title II.
IV. NRC's Role in Monitored Retrievable Storage Program			
39. Section 141(b)(3)-DOE shall consult with the Commission and EPA in formulating the MRS proposal and shall submit their comments on the MRS proposal to Congress along with the proposal	6/1/85	TBD	NRC consulted with DOE on development of the MRS proposal, and provided comments (SECY-86-9) to DOE on February 5, 1986 for submittal with the proposal to Congress soon thereafter. However, because of successful legal challenges by the State of Tennessee, the submittal of the MRS proposal to Congress has been delayed indefinitely. DOE has filed an appeal to expedite a decision on the District Court injunction in the 5th Circuit Court of Appeals in Cincinnati.
40. Section 141(c)(1)-Submission by Secretary of an environmental assessment with respect to the MRS proposal to Congress.	6/1/85	TBD	NRC did not comment on the EA.
41. Section 141(d)-DOE shall file for license with NRC for MRS. authorization	Subject to Congressional authorization of MRS	Subject to Congressional If authorized of MRS	NRC is currently developing revisions to 10 CFR Part 72 to provide the licensing framework for the MRS, if it should be authorized by Congress. NRC will review DOE's application and make the necessary licensing determinations. Current Status- The proposed rule on 10 CFR Part 72 was submitted to the Commission (SECY-85-374) on November 25, 1985, and is awaiting Commission approval.

V. NRC ROLE IN THE LOW-LEVEL WASTE MANAGEMENT AREA
(NO DEADLINES WERE PROVIDED IN THE ACT FOR THE LLW MANAGEMENT PROVISIONS UNDER SECTION 151).

PROVISIONS	NRC ROLE
42. SECTION 151(A)(1)-COMMISSION AUTHORIZED TO ESTABLISH REGULATIONS OR OTHER SUCH STANDARDS AND INSTRUCTIONS AS IT DEEMS NECESSARY OR DESIRABLE TO ENSURE THAT EACH LLW DISPOSAL LICENSEE WILL HAVE ADEQUATE FINANCIAL ARRANGEMENTS FOR DECONTAMINATION, DECOMMISSIONING, SITE CLOSURE AND RECLAMATION OF SITES, STRUCTURES, AND EQUIPMENT USED IN CONJUNCTION WITH ITS LLW DISPOSAL.	NEW SITES ARE COVERED BY EXISTING REGULATIONS (10 CFR PART 61). NRC WILL REVIEW EXISTING REGULATIONS AND GUIDANCE FOR APPLICATION AT THE EXISTING COMMERICAL LLW DISPOSAL SITES.
43. SECTION 151(A)(2)-IF COMMISSION DETERMINES THAT LONG-TERM MAINTENANCE OR MONITORING WILL BE NECESSARY AT A LLW DISPOSAL SITE, COMMISSION MUST ENSURE BEFORE TERMINATION OF THE LICENSE THAT THE LICENSEE HAS MADE ADEQUATE FINANCIAL ARRANGEMENTS. MONITORING WILL BE CARRIED OUT BY THE PERSON HAVING TITLE AND CUSTORY FOR SUCH FOLLOWING LICENSE TERMINATION.	MAY REQUIRE RULEMAKING BY THE COMMISSION AND THE DEVELOPMENT OF GUIDANCE FOR BOTH EXISTING AND NEW COMMERCIAL LLW DISPOSAL SITES. FOR EXISTING SITES, ANALYSES WILL BE REQUIRED TO ASSESS LONG-TERM PERFORMANCE; MONITORING AND LONG-TERM MAINTENANCE REQUIREMENTS; ASSOCIATED COSTS; AND THE PROGRAMS TO REVIEW MONITORING DATA TO IDENTIFY THE NEED FOR MITIGATIVE ACTIONS
44. SECTION 151(B)-DOE SHALL HAVE THE AUTHORITY TO ASSUME TITLE AND CUSTODY OF LLW AND THE LAND ON WHICH SUCH WASTE IS DISPOSED OF, UPON THE REQUEST OF THE OWNER OF SUCH WASTE AND LAND FOLLOWING TERMINATION OF THE LICENSE ISSUED BY THE COMMISSION FOR SUCH DISPOSAL, IF 1) THE COMMISSION DETERMINES THAT THE REQUIREMENTS FOR SITE CLOSURE, DECOMMISSIONING AND DECONTAMINATION HAVE BEEN MET WITH PURSUANT TO SECTION 115(A); 2) THAT SUCH TITLE AND CUSTODY WILL BE TRANSFERRED TO THE DOE WITHOUT COST TO THE FEDERAL GOVERNMENT; AND THAT FEDERAL OWNERSHIP AND MANAGEMENT IS NECESSARY, OR DESIRABLE TO PROTECT THE PUBLIC HEALTH AND SAFETY.	LIKELY TO REQUIRE RULEMAKING/GUIDANCE TO PROVIDE BASIS FOR REQUIRED DETERMINATIONS. SUCH RULEMAKING/GUIDANCE WOULD REQUIRE CLOSE COORDINATION OF DOE WHICH APPEARS TO HAVE INDEPENDENT DISCRETION TO ACCEPT SITES FOLLOWING COMMISSION DETERMINATION.
45. SECTION 151(C)-ADEQUATE FINANCIAL ARRANGEMENTS FOR LONG-TERM MAINTENANCE AND MONITORING, AS WELL AS DECONTAMINATION AND STABILIZATION OF SPECIAL SITES MUST BE MET IN ACCORDANCE WITH REQUIREMENTS ESTABLISHED BY THE COMMISSION BEFORE DOE MAY ASSUME TITLE AND CUSTODY OF THE WASTE AND THE LAND ON WHICH IT IS DISPOSED.	SIMILAR TO EVENT 44 ABOVE.

VI. NRC'S ROLE RELATING TO OTHER PROVISIONS IN THE ACT

PROVISIONS	NWPA DATE	CURRENT SCHEDULE	NRC ROLE
46. SECTION 223(B)-BY APRIL 7, 1983, DOE AND NRC MUST PUBLISH A JOINT NOTICE IN THE FEDERAL REGISTER STATING THAT THE U.S. IS PREPARED TO COOPERATE AND PROVIDE TECHNICAL ASSISTANCE TO NON-NUCLEAR WEAPON STATES IN THE FIELD OF SPENT FUEL STORAGE AND DISPOSAL.	4/7/83 ANNUAL REVISIONS REQUIRED	COMPLETED 3/30/83. UPDATES PUBLISHED APRIL 6, 1984, APRIL 5, 1985	NRC WILL PREPARE A JOINT FEDERAL REGISTER NOTICE WITH DOE AND WILL PROVIDE TECHNICAL ASSISTANCE TO NON-NUCLEAR WEAPON STATES PURSUANT TO THE ACT AND THE FR NOTICE. NRC AND DOE WILL UPDATE AND REISSUE THIS NOTICE ANNUALLY FOR 5 YEARS, AS REQUIRED. AN FR NOTICE WAS PUBLISHED FOLLOWING COORDINATION WITH DOE, ACDA, AND THE STATE DEPARTMENT ON MARCH 30, 1983. THE FIRST ANNUAL UPDATE OF THE NOTICE WAS PUBLISHED IN THE FEDERAL REGISTER ON APRIL 6, 1984, AND THE SECOND UPDATE WAS PUBLISHED IN THE FEDERAL REGISTER ON APRIL 5, 1985. CURRENT STATUS - THE THIRD UPDATE IS CURRENTLY BEING PREPARED FOR PUBLICATION ON APRIL 4, 1986.
47. SECTION 302(B)(1)(A)-THE COMMISSION SHALL NOT ISSUE OR RENEW A LICENSE TO USE A UTILIZATION OR PRODUCTION FACILITY UNDER SECTION 103 OR 104 OF THE ATOMIC ENERGY ACT UNLESS THE APPLICANT HAS ENTERED INTO A WASTE DISPOSAL CONTRACT WITH THE SECRETARY OF ENERGY OR THE SECRETARY AFFIRMS IN WRITING THAT THE LICENSEE IS NEGOTIATING IN GOOD FAITH TO ENTER INTO SUCH A CONTRACT.	6/30/83	COMPLETED 6/30/83	THE FINAL WASTE DISPOSAL CONTRACT PROPOSAL WAS PUBLISHED BY THE DOE IN THE FEDERAL REGISTER ON APRIL 18, 1983. ALL NECESSARY CONTRACTS WERE SIGNED AND RECEIVED BY THE DOE ON OR BEFORE THE JUNE 30, 1983 STATUTORY DEADLINE.
SECTION 302(B)(1)(B)-THE NRC IN ITS DISCRETION MAY REQUIRE AS A PRECONDITION TO THE ISSUANCE OR RENEWAL OF A REACTOR LICENSE THAT THE APPLICANT SHALL HAVE ENTERED INTO AN AGREEMENT WITH DOE FOR THE DISPOSAL OF HIGH-LEVEL WASTE OR SPENT FUEL THAT MAY RESULT FROM SUCH A LICENSE.			

Provision	NWPA Date	Current Schedule	NRC Role
48. Section 303-DOE shall consult with the Chairman of the NRC in conducting a study of alternative approaches to managing construction and operations of all civilian waste management facilities and then DOE is to report Congress.	1/6/84	Action Completed 4/18/85	At the invitation of the Secretary, the Chairman will consult on the "alternative approaches" study. Actions Taken-DOE chartered an Advisory Panel on Alternative Means of Financing and Managing Radioactive Waste Facilities (AMFM) to assist them in conducting the required study. As part of the consultation process, DOE extended the invitation to have an NRC observer attend the AMFM Panel meetings. The Panel held ten meetings between January and November 1984, which were attended by NRC staff observers, and toured DOE waste facilities at Hanford, NTS, and WIPP. Panel held its tenth and final meeting on November 13 and 14, 1984, including a meeting with Secretary Hodel on November 14 to discuss their recommendations and forthcoming report. A final draft of the report received by NRC on December 5, concludes that several organizational forms are more suited than DOE for managing the waste program, and identifies a public corporation as its preferred alternative. The report also recommends adoption of several specific program components which are independent of the type of organization ultimately chosen to handle the program, including an Advisory Siting Council. The Final Draft Report was sent to the Chairman for consultation on February 19, 1985. The staff provided comments to the Chairman on March 8, 1985. The Chairman transmitted his comments to Secretary Herrington on March 22, 1985, which were forwarded to the President along with DOE's recommendations on April 18, 1985. DOE recommended retaining the present management structure at least through the siting and licensing phase of the program.
49. Section 306-NRC is required to promulgate regulations or other suitable guidance for the training and qualifications of civilian nuclear power plant personnel and submit a report to Congress on its activities under this action.	1/6/84	3/86	As provided. The Commission issued a policy statement on February 7, 1985, concerning personnel training and qualifications (10 CFR Part 50). This policy statement was published in the Federal Register on March 20, 1985. Proposed amendments to Part 55 dealing with simulator training requirements were published in the Federal Register on November 26, 1984. Current Status - The Final Rulemaking package on Part 55 and 3 associated Regulatory Guides was approved by the ACRS on December 5-7, 1985, and final Office review has been completed. The final amendment to Part 55 was submitted to CRGR for review on February 26, 1986, which recommended several modifications. The edited final rule was resubmitted to the CRGR on March 19, 1986. Pending CRGR approval, the final rulemaking package is expected to go the Commission in April, 1986.

QUESTION 8: PROVIDE FOR THE RECORD A SUMMARY AND UPDATE ON WHAT HAS BEEN ACCOMPLISHED AND WHAT REMAINS TO BE DONE TO CLEAN UP THE TMI-2 REACTOR SIMILAR TO THAT WHICH WAS INCLUDED LAST YEAR. INCLUDE A SHORT EXPLANATION OF ANY CHANGES IN THE SCHEDULES PROVIDED LAST YEAR.

ANSWER

DURING THE PAST YEAR, SEVERAL SIGNIFICANT CLEANUP ACTIONS WERE EITHER ACCOMPLISHED OR INITIATED. IN MAY 1985, THE REACTOR PLENUM WAS REMOVED FROM THE REACTOR VESSEL AND PLACED IN THE DEEP END OF THE REFUELING CANAL. REMOVAL OF THE PLENUM PROVIDED DIRECT ACCESS TO THE DAMAGED CORE.

DEFUELING OPERATIONS TO REMOVE THE DAMAGED REACTOR CORE COMMENCED ON OCTOBER 31, 1985. SPECIALLY DESIGNED EQUIPMENT AND PROCEDURES ARE BEING EMPLOYED IN THESE UNIQUE OPERATIONS. DEFUELING OPERATORS, WORKING ON A SHIELDED PLATFORM OVER THE REACTOR VESSEL, ARE USING LONG-HANDLED TOOLS TO LOAD CORE DEBRIS INTO DEFUELING CANISTERS. AS OF MARCH 24, 1986, THIRTY-ONE CANISTERS CONTAINING APPPROXIMATELY 34,800 POUNDS OF DEBRIS HAVE BEEN TRANSFERRED FROM THE REACTOR VESSEL TO SUBMERGED STORAGE RACKS IN SPENT FUEL POOL "A" IN THE FUEL HANDLING BUILDING. APPROXIMATELY 273,200 POUNDS OF DEBRIS REMAIN TO BE REMOVED. OFF-SITE SHIPMENT OF LOADED CANISTERS TO A DEPARTMENT OF ENERGY FACILITY AT THE IDAHO NATIONAL ENGINEERING LABORATORY IS SCHEDULED TO COMMENCE IN THE SECOND QUARTER OF CALENDAR YEAR 1986. DECONTAMINATION AND DOSE REDUCTION ACTIVITIES IN THE REACTOR AND AUXILIARY BUILDINGS ARE CONTINUING IN CONJUNCTION WITH THE DEFUELING PROGRAM. RADIATION SURVEYS OF THE REACTOR BUILDING BASEMENT HAVE BEEN PERFORMED USING ROBOTIC VEHICLES, WHICH MAY ALSO BE USED TO DECONTAMINATE THIS HIGHLY RADIOACTIVE AREA. SURVEYS ARE IN PROGRESS TO LOCATE AND QUANTIFY THE AMOUNT OF FUEL THAT MAY HAVE BEEN TRANSPORTED TO AREAS OF THE PRIMARY SYSTEM OUTSIDE THE REACTOR VESSEL. TO DATE, LITTLE FUEL DEBRIS HAS BEEN FOUND OUTSIDE THE VESSEL.

CURRENTLY, THE LICENSEE IS INVESTIGATING METHODS TO CURB THE GROWTH OF MICRO-ORGANISMS IN THE REACTOR COOLANT SYSTEM. THE PRESENCE OF THESE MICRO-ORGANISMS HAS REDUCED VISIBILITY IN THE VESSEL, CONSEQUENTLY MAKING DEFUELING OPERATIONS MORE DIFFICULT.

THE REMAINING MAJOR CLEANUP MILESTONES AND THE LICENSEE'S CURRENT ESTIMATED SCHEDULE ARE AS FOLLOWS:

COMPLETION OF ALL IN-VESSEL AND EX-VESSEL DEFUELING - JUNE 1987
COMPLETION OF OFF-SITE SHIPMENT OF FUEL - APRIL 1988
COMPLETION OF SYSTEMS DECONTAMINATION - JULY 1988
PROGRAM ENDPOINT - SEPTEMBER 1988

THE NRC MUST ULTIMATELY APPROVE THE METHOD OF DISPOSAL OF THE PROCESSED ACCIDENT-GENERATED WATER USED AND STORED AT TMI-2 AND MUST ALSO APPROVE THE LICENSEE'S PROPOSED ENDPOINT FOR THE CLEANUP. THE STAFF ANTICIPATES RECEIVING THE LICENSEE'S PROPOSALS ON BOTH OF THESE ISSUES SOMETIME DURING THE THIRD QUARTER OF 1986.

THE LICENSEE'S CLEANUP SCHEDULE PROVIDED ABOVE IS ESSENTIALLY THE SAME AS LAST YEAR. THE CURRENT SCHEDULE CALLS FOR COMPLETION OF ALL IN-VESSEL AND EX-VESSEL DEFUELING BY JUNE 1987. THE SCHEDULE PROVIDED LAST YEAR SPECIFIED THE THIRD QUARTER OF CALENDAR YEAR 1987 FOR COMPLETING FUEL REMOVAL FROM THE REACTOR PLANT SYSTEMS. THE CURRENT SCHEDULE CALLS FOR THE PROGRAM ENDPOINT IN SEPTEMBER 1988; LAST YEAR THE PROGRAM ENDPOINT WAS PROJECTED TO BE BY THE END OF THE SECOND QUARTER OF 1988.

QUESTION 9: PROVIDE A TABLE FOR THE RECORD SHOWING THE TOTAL COST OF THE CLEANUP, HOW MUCH HAS BEEN SPENT TO DATE, AND THE WORK REMAINING, ALONG WITH AN ESTIMATED COST AND SOURCE OF THE FUNDS TO COMPLETE THE REMAINING WORK.

ANSWER

THE FOLLOWING INFORMATION WAS PROVIDED TO THE NRC STAFF BY THE LICENSEE ON FEBRUARY 6, 1986.

o Costs	
- Total Estimated Cost of Cleanup	$965M
- Total Expended Through the End of CY 85	$613M
- Total Remaining Cost for Cleanup CY 86 and Beyond	$352M
o Sources of Funds for Remainder of Cleanup	
- GPU Customers	$136M
- NJ and PA State Appropriations	$ 22M
- US Department of Energy	$ 30M
- Edison Electric Institute	$130M
- Japanese Consortium	$ 12M
- GPU Internally Generated Funds	$ 22M
Total	$352M

QUESTION 10: Why is it necessary to have 7 staff people assigned to TMI-2 cleanup activities? How many are directly related to inspection and technical activities?

ANSWER

The resources budgeted in FY 87 are essential to maintaining NRC's comprehensive and responsive regulatory posture at TMI-2. The Commission has, since the March 1979 accident, continued to place the safe and expeditious cleanup of the TMI-2 reactor as one of the agency's highest safety priorities. Specifically, NRC resources are required for activities, including 1) direct oversight of defueling and decontamination activities; 2) processing and evaluating the safety significance of proposed changes to the TMI-2 license; 3) reviewing, for NRC approval, detailed procedures relating to defueling and decontamination; 4) evaluating and providing a Commission recommendation on a forthcoming licensee proposal for final disposition of water contaminated by the 1979 accident; 5) preparing Draft and Final Environmental Impact Statements on a forthcoming licensee proposal for placing the TMI-2 facility in an indefinite storage status

FOLLOWING CLEANUP COMPLETION; 6) PROVIDING TECHNICAL AND ADMINISTRATIVE SUPPORT TO THE COMMISSION'S INDEPENDENT TMI-2 ADVISORY PANEL, AND 7) COORDINATING NRC CLEANUP ACTIVITIES WITH OTHER FEDERAL AND STATE AGENCIES.

TO CARRY OUT ITS POLICY OF ASSURING SAFE AND EXPEDITIOUS CLEANUP, THE NRC HAS MAINTAINED A DEDICATED ORGANIZATION HEADED BY A SENIOR MANAGER. THE NUMBER OF NRC RESOURCES DEDICATED TO THE CLEANUP HAS BEEN GRADUALLY DECREASING CONSISTENT WITH THE COMPLETION OF MAJOR CLEANUP MILESTONES. ADDITIONAL REDUCTIONS IN NRC RESOURCES APPLIED TO THE CLEANUP ARE EXPECTED FOLLOWING REMOVAL OF THE DAMAGED REACTOR FUEL. ALL BUDGETED NRR RESOURCES, EXCEPT 2 ADMINISTRATIVE SUPPORT POSITIONS, ARE DIRECTLY INVOLVED IN TECHNICAL ACTIVITIES RELATED TO THE CLEANUP. FORMAL NRC INSPECTION ACTIVITIES ARE CONDUCTED BY REGION I PERSONNEL.

QUESTION 11. THE 1987 BUDGET REQUEST FOR OPERATING REACTORS INCLUDES AN INCREASE OF NEARLY $3.0 MILLION AND 34 PEOPLE.

(A) HOW SPECIFICALLY, WILL THE $3.0 MILLION BE ALLOCATED?

ANSWER.

THERE WILL SOON BE OVER ONE HUNDRED NUCLEAR POWER PLANTS LICENSED FOR OPERATION. RECENT EVENTS HAVE DEMONSTRATED THAT THE RESOURCES NEEDED FOR REGULATING AN OPERATING REACTOR CAN BE ABOUT AS MUCH AS FOR LICENSING A REACTOR. AFTER THE OPERATING LICENSE IS ISSUED, RESOURCES ARE STILL NEEDED TO: INSPECT LICENSEE OPERATIONAL AND EMERGENCY RESPONSE ACTIVITIES; EVALUATE LICENSEE PERFORMANCE; EXAMINE REACTOR OPERATORS; ANALYZE OPERATIONAL DATA; RESPOND TO AND EVALUATE THE IMPACT OF UNANTICIPATED REACTOR EVENTS; INSPECT SAFETY RELATED EQUIPMENT PRODUCED FOR NUCLEAR REACTORS; PROVIDE AN ADEQUATE INCIDENT RESPONSE CAPABILITY; CONDUCT REACTOR SAFEGUARDS ACTIVITIES; PROCESS, REVIEW AND IMPLEMENT REACTOR LICENSING ACTIONS; PROVIDE PROJECT MANAGEMENT; LEGAL SUPPORT; AND CONDUCT ADJUDICATORY HEARINGS.

QUESTION 11(A) (CONTINUED)

THE ADDITIONAL $3 MILLION WILL BE UTILIZED TO PERFORM REQUIRED SAFETY EVALUATIONS FOR THE IMPLEMENTATION OF APPROVED REQUIREMENTS AND REQUESTS FROM THE LICENSEE FOR ADMINISTRATIVE, PROCEDURAL OR TECHNICAL CHANGES AT OPERATING REACTORS.

QUESTION 11. (B) WHY IS THE PERSONNEL INCREASE NEEDED?

ANSWER.

THE INCREASE IN PERSONNEL IS REQUIRED TO REGULATE THE INCREASING NUMBER OF OPERATING REACTORS. THE INCREASE IS PRIMARILY DUE TO THE INCREASE IN THE NUMBER OF NRC PROJECT MANAGERS. SEE 11(A) COMMENTS.

QUESTION 11. (C) HOW MUCH OF THE $5.3 MILLION REQUESTED FOR SAFETY TECHNOLOGY PROGRAM IS FOR ADVANCED REACTOR CONCEPTS?

ANSWER.

IN FY 1987, NO PROGRAM SUPPORT FUNDS ARE BUDGETED FOR ADVANCED REACTOR CONCEPTS. ABOUT TWO PROFESSIONAL STAFF YEARS OF EFFORT ARE BUDGETED TO INTERACT WITH INDUSTRY AND DOE ON ADVANCED REACTOR CONCEPTS.

THE U.S. DEPARTMENT OF ENERGY HAS BEEN INFORMED THAT DUE TO FY 1986 AND FY 1987 BUDGET REDUCTIONS, THE NRC STAFF HAS RE-ASSESSED ITS PREVIOUS COMMITMENTS TO U.S. DOE IN THE ADVANCED REACTOR AREA. MR. DENTON'S LETTER IS ATTACHED.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 19 1986

Mr. James W. Vaughan, Jr.
Acting Assistant Secretary
for Nuclear Energy
Department of Energy
Washington, D.C. 20585

Dear Mr. Vaughan:

In letters to you dated July 11, 1985 and September 13, 1985 we committed, as part of our work in the advanced reactor area, to the review of a Department of Energy sponsored advanced High Temperature Gas-Cooled Reactor (HTGR) conceptual design and two advanced Liquid Metal Reactor (LMR) conceptual designs. As planned these reviews would take place over approximately a two year time period (1986-1987) and would conclude with the issuance by NRC of a Safety Evaluation Report and a licensability letter on each concept, based upon our review of the Preliminary Safety Information Documents (PSIDs) submitted for review on each of the designs. As stated in the above letters our commitments were contingent upon our receiving sufficient resources to support the planned reviews. Subsequently, as result of the Gramm-Rudman-Hollings Act and the Office of Management and Budget (OMB) review, our resources have been reduced.

The purpose of this letter is to inform you that, due to FY 1986 and FY 1987 budget reductions, we must reassess our previous commitments in the advanced reactor area. The plans and schedules for our review, which we had previously discussed with your staff, were based upon our applying about $1.2 million of technical assistance funds and four to six professional staff-years of effort in both FY 1986 and FY 1987. With current available resources, we will only be able to apply about two professional staff-years in each fiscal year and minimal technical assistance funds to these reviews. Therefore, we can no longer commit to review the PSIDs or the key issues associated with these concepts on the schedules agreed to with your staff and I request that our staffs meet as soon as possible to discuss plans, schedules and priorities for future work in the advanced reactor area. Our point of contact for these discussions is Mr. T. L. King, Section Leader, Division of Safety Review and Oversight, Office of Nuclear Reactor Regulation (492-7014).

If I can be of any assistance regarding this matter, please do not hesitate to contact me.

Sincerely,

HR Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

QUESTION 11. (D) HOW MUCH WAS EXPENDED IN THIS AREA IN 1985 AND WHAT LEVEL OF EXPENDITURES IS EXPECTED FOR 1986?

ANSWER.

IN FY 1985, NRR EXPENDED ABOUT $175K AND ABOUT FOUR PROFESSIONAL STAFF YEARS OF EFFORT ON ADVANCED REACTOR CONCEPTS. IN FY 1986, NRR EXPECTS TO UTILIZE ABOUT $100K AND ABOUT TWO PROFESSIONAL STAFF YEARS FOR ADVANCED REACTOR CONCEPTS.

QUESTION 11. (E) PROVIDE FOR THE RECORD A DETAILED LIST, BY OBJECT CLASSIFICATION OF EXPENDITURES IN 1985 AND THUS FAR IN 1986.

ANSWER.

IN FY 1985, THE OFFICE OF NUCLEAR REACTOR REGULATION EXPENDED $10,550K FOR THE OPERATING REACTORS PROGRAM. OF THIS AMOUNT, $8,148K WAS UTILIZED TO PERFORM SAFETY EVALUATIONS FOR THE IMPLEMENTATION OF APPROVED REQUIREMENTS AND REQUESTS FROM THE LICENSEE FOR ADMINISTRATIVE, PROCEDURAL AND TECHNICAL CHANGES AT OPERATING REACTORS. THE REMAINING $2,402K WAS USED TO SUPPORT THE STAFF IN RESPONDING TO EVENTS AT OPERATING REACTORS AND ASSESSING MAJOR OPERATIONAL PROBLEMS THAT INVOLVED MORE THAN ONE REACTOR.

FOR FY 1986, WE CURRENTLY EXPECT TO EXPEND ABOUT $11,850K FOR THE OPERATING REACTORS PROGRAM. AS OF FEBRUARY 1986, $3,616K HAS BEEN OBLIGATED FOR SAFETY EVALUATIONS AND $220K FOR EVENTS AND SAFETY ASSESSMENT.

QUESTION 12: HOW WILL THE RECENTLY ENACTED AMENDMENTS TO THE LOW-LEVEL RADIOACTIVE WASTE POLICY ACT AFFECT OR IMPACT NRC'S OPERATION? WHAT ADDITIONAL RESPONSIBILITIES ARE REQUIRED OF NRC?

ANSWER

A SUMMARY OF THE SECTIONS OF THE ACT, ADDITIONAL RESPONSIBILITIES RESULTING FROM THE ACT, AND WORK CURRENTLY PLANNED BY NRC TO IMPLEMENT ITS RESPONSIBILITIES UNDER THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985 ARE PROVIDED IN THE ENCLOSURE.

NMSS/PM

NRC ROLES IN IMPLEMENTING THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985

	PROVISIONS	LLRWPAA DATE	CURRENT SCHEDULE	NRC ROLE
I.	NRC ROLE: CLASSIFYING LOW-LEVEL RADIOACTIVE WASTE			
1.	SECTION 2(9)(B) - NRC IS RESPONSIBLE FOR CLASSIFYING MATERIAL AS LOW-LEVEL WASTE.	NONE		NRC MUST CLASSIFY LOW-LEVEL RADIOACTIVE WASTE AS NEEDED TO ALLOW IMPLEMENTATION OF SECTION 3 RESPONSIBILITIES FOR GREATER THAN CLASS C WASTES. THIS WILL BE UNDERTAKEN IF NECESSARY AS AN ADJUNCT TO THE RULEMAKING TO DEFINE HIGH-LEVEL WASTE UNDER SECTION 2(12)(B) OF THE NUCLEAR WASTE POLICY ACT.
II.	NRC ROLE: LICENSING ABOVE CLASS C FACILITY			
1.	SECTION 3(B)(2) - NRC SHALL LICENSE ANY DISPOSAL FACILITY ACCEPTING NRC-REGULATED WASTES EXCEEDING 10 CFR PART 61.55 CLASS C LIMITS.	NONE		NRC WILL IDENTIFY LICENSING REQUIREMENTS FOR WASTES EXCEEDING CLASS C LIMITS AND PROVIDE STAFF GUIDANCE TO DOE FOLLOWING REVIEW OF DOE REPORT UNDER SECTION 3(B)(3). GUIDANCE WILL BE IN FORM OF PROPOSED RULE, IF APPROPRIATE. NRC SHALL TO THE EXTENT PRACTICABLE REVIEW AND PROCESS ANY LICENSE APPLICATION 15 MONTHS AFTER DOCKETING.
2.	SECTION 3(B)(3) - DOE SHALL SUBMIT REPORT TO CONGRESS CONTAINING INFORMATION AND RECOMMENDATIONS ON DISPOSAL OF LOW-LEVEL WASTE THAT IS A FEDERAL RESPONSIBILITY UNDER THE LLRWPAA.	1/87 (DOE ACTION)	1/87	TO SUPPORT DOE ACTIONS, NRC WILL PROVIDE INFORMATION REGARDING CHARACTERISTICS OF WASTES WHICH ARE LIKELY TO BE A FEDERAL RESPONSIBILITY, CONSISTENT WITH PROPOSED RULEMAKING ON HIGH-LEVEL WASTE DEFINITION.

	PROVISIONS	LLRWPAA DATE	CURRENT SCHEDULE	NRC ROLE
III.	NRC ROLE: PRESERVING NRC AUTHORITY WITH RESPECT TO LOW-LEVEL WASTE COMPACTS			
1.	SECTION 4(B)(3) AND (4) - COMPACTS ARE NOT CONFERRED ANY NEW AUTHORITY INCOMPATIBLE WITH NRC REGULATION. THE ACT IS NOT INTENDED TO DIMINISH OR IMPAIR NRC JURISDICTION.	1/15/86	ONGOING	NRC WILL MAINTAIN AN AWARENESS OF COMPACT ACTIONS AND OTHER LLRWPAA ACTIVITIES TO IDENTIFY ANY POSSIBLE IMPACTS ON NRC HEALTH AND SAFETY REGULATIONS.
IV.	NRC ROLE: STATES FAILING TO MEET JANUARY 1, 1993, DEADLINE			
1.	SECTION 5(D)(2)(C)(I) AND (II) - STATES TAKING TITLE AND POSSESSION OF LOW-LEVEL WASTE DUE TO FAILURE TO ESTABLISH DISPOSAL CAPACITY BY 1993 (OR NO LATER THAN 1996) WOULD REQUIRE NRC OR AGREEMENT STATE LICENSE.	1/1/93 (I) 1/1/96 (II)	1/90	NRC WILL ISSUE GUIDANCE FOR POTENTIAL LICENSEES AND AGREEMENT STATES SUFFICIENTLY IN ADVANCE OF THE LLRWPAA DATES TO ALLOW FOR TIMELY DEVELOPMENT AND LICENSING OF ANY NEEDED FACILITIES. NRC MUST BE PREPARED TO LICENSE SUCH POSSESSION OF LOW-LEVEL RADIOACTIVE WASTE IN NON-AGREEMENT STATES.
V.	NRC ROLE: DETERMINING DISPOSAL SITE APPLICATION COMPLETENESS			
1.	SECTION 5(E)(1)(C) AND (D) -A COMPLETE APPLICATION (AS DETERMINED BY THE NRC OR AGREEMENT STATE) SHALL BE FILED FOR A LOW-LEVEL WASTE DISPOSAL FACILITY WITHIN EACH NON-SITED REGION OR STATE BY 1990 OR 1992.	1/1/90 (C) 1/1/92 (D)		NRC WILL PROVIDE GUIDANCE TO STATES/COMPACTS ON WHAT CONSTITUTES A COMPLETE LICENSE APPLICATION FOR DOCKETING PURPOSES (STANDARD FORMAT AND CONTENT GUIDE). GUIDANCE AND RELATED PRE-LICENSING TECHNICAL ASSISTANCE MUST BE AVAILABLE SUFFICIENTLY IN ADVANCE OF THE LLRWPAA DATES TO ALLOW TIME FOR THE DATA COLLECTION AND ANALYSES REQUIRED TO SUPPORT PREPARATION OF COMPLETE APPLICATION. NRC (OR

	PROVISIONS	LLRWPAA DATE	CURRENT SCHEDULE	NRC ROLE
V.	NRC ROLE: DETERMINING DISPOSAL SITE APPLICATION COMPLETENESS (CONT'D)			
				AGREEMENT STATE) MUST RECEIVE APPLICATIONS SEVERAL MONTHS IN ADVANCE OF THE DEADLINES SPECIFIED IN THE ACT, TO ALLOW TIME FOR THE COMPLETENESS REVIEW. CONSEQUENTLY, NRC WILL ALSO PROVIDE GUIDANCE TO STATES/COMPACTS ON RECOMMENDED SUBMITTAL DATES TO FACILITATE MILESTONE COMPLIANCE.
VI.	NRC ROLE: TRANSMITTING AND PUBLISHING STATE CERTIFICATIONS			
1.	SECTION 5(E)(1)(E) - NRC MUST TRANSMIT ANY STATE CERTIFICATIONS TO CONGRESS AND PUBLISH SUCH CERTIFICATIONS IN THE FEDERAL REGISTER.	1/1/90		NRC WILL ISSUE A FEDERAL REGISTER NOTICE SPECIFYING PROCEDURES FOR SUBMITTAL OF CERTIFICATIONS. NRC WILL CARRY OUT REQUIRED ACTIONS AS NEEDED.
VII.	NRC ROLE: EMERGENCY ACCESS TO NON-FEDERAL DISPOSAL FACILITIES			
1.	SECTION 6(C)(1) - NRC MUST DETERMINE IF EMERGENCY ACCESS IS NECESSARY, AND CANNOT BE MITIGATED BY ALTERNATIVE MEANS INCLUDING ON-SITE STORAGE AND CEASING WASTE GENERATION ACTIVITIES.	AFTER 1/1/87	1/1/87	BY THE SCHEDULED DATE, THE STAFF WILL DEVELOP THE CRITERIA AND PROCEDURES FOR MAKING THE REQUIRED DETERMINATIONS, AND IDENTIFY THE INFORMATION TO BE SUBMITTED IN REQUESTS FOR EMERGENCY ACCESS. NRC MUST ACT ON REQUESTS WITHIN 45 DAYS. NRC WILL COORDINATE ACTIVITIES WITH DOE ON DETERMINATIONS REGARDING THREATS TO COMMON DEFENSE AND SECURITY.

	PROVISIONS	LLRWPAA DATE	CURRENT SCHEDULE	NRC ROLE
2.	SECTION 6(c)(2) - IF NRC GRANTS EMERGENCY ACCESS, NRC MUST DESIGNATE A NON-FEDERAL DISPOSAL FACILITY, SPECIFY ACCESS CONDITIONS, AND NOTIFY AFFECTED PARTIES.	AFTER 1/1/87	1/1/87	THE STAFF WILL DEVELOP PROCEDURES FOR DESIGNATING A NON-FEDERAL DISPOSAL FACILITY AND FOR DETERMINING ACCESS CONDITIONS (WASTE CHARACTERISTICS AND VOLUME, AND DURATION OF ACCESS UP TO 180 DAYS). NRC WILL DEVELOP PROCEDURES FOR TIMELY NOTIFICATION OF THE GOVERNOR OF THE STATE IN WHICH THE FACILITY IS LOCATED, THE APPROPRIATE COMPACT COMMISSION, THE GOVERNOR OF THE STATE IN WHICH THE WASTE WAS GENERATED, AND THE REQUESTOR.
3.	SECTION 6(D) - NRC MAY IMMEDIATELY GRANT TEMPORARY EMERGENCY ACCESS UP TO 45 DAYS PENDING DECISION UNDER SECTION 6(c)(1)(B).	AFTER 1/1/87	1/1/87	BY SCHEDULED DATE, STAFF WILL DEVELOP THE CRITERIA AND PROCEDURES FOR EVALUATING REQUESTS FOR IMMEDIATE EMERGENCY ACCESS AND FOR NOTIFYING AFFECTED PARTIES OF ANY GRANTS OF TEMPORARY ACCESS.
4.	SECTION 6(E) - NRC MAY GRANT ONE 180 DAY EXTENSION OF EMERGENCY ACCESS IF NECESSARY AND IF THE WASTE GENERATOR AND STATE HAVE ACTED DILIGENTLY TO ELIMINATE ACCESS NEED.	AFTER 7/1/87	1/1/87	BY SCHEDULED DATE, STAFF WILL DEVELOP PROCEDURES AND CRITERIA FOR DETERMINING IF ACCESS CONTINUES TO BE NECESSARY AND CRITICAL, AND FOR DETERMING IF DILIGENT ACTION HAS BEEN TAKEN TO ELIMINATE THE NEED FOR EMERGENCY ACCESS. NRC WILL COORDINATE WITH DOE REGARDING COMMON DEFENSE AND SECURITY QUESTIONS. STAFF WILL ALSO DEVELOP PROCEDURES FOR NOTIFYING AFFECTED PARTIES OF ITS DECISIONS.

	Provisions	LLRWPAA Date	Current Schedule	NRC Role
5.	Section 6(h) - NRC determinations under 6(c), 6(d), and 6(e) may not exceed disposal facility limitations.	After 1/1/87	1/1/87	By scheduled date, staff will develop procedures for coordinating decisions under 6(c), 6(d), and 6(e), with Agreement States to ensure that emergency access conditions are consistent with disposal site license provisions, waste capacity limitations and site closure plans.
VIII.	NRC Role: Assisting the Department of Energy			
1.	Section 7(b) - DOE must submit annual reports to Congress addressing low-level waste topics and LLRWPAA implementation	Annual (DOE Action)	Ongoing	To support report preparation by DOE, NRC will provide information regarding NRC licensing actions.
IX.	NRC Role: Licensing Guidance for Alternative Disposal Methods			
1.	Section 8(a) - NRC must issue technical guidance regarding licensing of alternative disposal methods in consultation with States and other interested parties.	1/15/87	Outreach: Ongoing Guidance: 1/87	NRC will undertake outreach activities to fulfill consultation requirement. NRC must then identify alternative disposal methods and publish technical guidance regarding licensing of such facilities by scheduled date.
2.	Section 8(b) - NRC must identify and publish all technical information that a State or compact must provide to the NRC, together with the technical requirements for licensing alternative disposal facilities.	1/15/88	1/88	By scheduled date, NRC will publish Standard Format and Content Guide for alternative disposal facility license applications, along with the technical requirements for licensing such facilities.

	PROVISIONS	LLRWPAA DATE	CURRENT SCHEDULE	NRC ROLE
X.	NRC ROLE: LICENSE REVIEW CAPABILITY			
1.	SECTION 9(1) - NRC MUST ESTABLISH PROCEDURES AND DEVELOP THE TECHNICAL CAPABILITY FOR PROCESSING LICENSE APPLICATIONS.	1/15/87	1/15/87	BY SCHEDULED DATE, NRC WILL DEVELOP STANDARD REVIEW PLANS FOR PROCESSING LLW DISPOSAL LICENSE APPLICATIONS FOR SHALLOW LAND BURIAL. THIS MUST PROVIDE FOR ACCOMPLISHMENT OF SECTION 9(2). PLANS MAY REQUIRE FUTURE UPDATING, DEPENDING ON METHOD CHOSEN FOR DISPOSAL OF LOW-LEVEL WASTE EXCEEDING 10 CFR PART 61.55 CLASS C LIMITS, UNDER SECTION 3(B)(2) AND FOR ALTERNATIVES TO SHALLOW LAND BURIAL.
2.	SECTION 9(2) - NRC SHALL TO THE EXTENT PRACTICABLE REVIEW AND PROCESS LICENSE APPLICATIONS (NOT INCLUDING PUBLIC HEARINGS) WITHIN 15 MONTHS.	UPON RECEIPT	NOT EXPECTED BEFORE 1/1/90	NRC SHALL TO THE EXTENT PRACTICABLE COMPLETE TECHNICAL REVIEWS OF NEW DISPOSAL FACILITY APPLICATIONS WITHIN 15 MONTHS OF DOCKETING.
3.	SECTION 9(3) - NRC SHALL TO THE EXTENT PRACTICABLE CONSOLIDATE ALL REQUIRED TECHNICAL AND ENVIRONMENTAL REVIEWS AND PUBLIC HEARINGS.	UPON RECEIPT	7/87	BY SCHEDULED DATE, NRC WILL DEVELOP LEGAL POSITIONS AND SUPPORTING ADMINISTRATIVE PROCEDURES AS NEEDED TO CONSOLIDATE NEPA AND LICENSE APPLICATION REVIEWS/HEARINGS TO THE EXTENT PRACTICABLE. THIS WILL BE CONSISTENT WITH GUIDANCE ISSUED UNDER SECTION 5(E)(1)(C) AND (D).

	PROVISIONS	LLRWPAA DATE	CURRENT SCHEDULE	NRC ROLE
XI.	NRC ROLE: RADIOACTIVE WASTE BELOW REGULATORY CONCERN			
1.	SECTION 10 - NRC MUST ESTABLISH STANDARDS AND PROCEDURES AND THE CAPABILITY TO ACT UPON PETITIONS TO EXEMPT SPECIFIC WASTES FROM NRC REGULATION, AND MUST IDENTIFY INFORMATION TO BE CONTAINED IN PETITIONS.	7/15/86	7/15/86	BY SCHEDULED DATE, NRC WILL DEVELOP THE POLICY, PROCEDURES, AND CAPABILITIES TO EVALUATE AND ACT UPON PETITIONS TO EXEMPT SPECIFIC WASTES FROM NRC REGULATION. NRC MUST ALSO PROVIDE GUIDANCE TO LICENSEES SETTING FORTH ALL INFORMATION REQUIRED TO BE SUBMITTED TO THE NRC BY LICENSEES IN SUPPORT OF SUCH PETITIONS.

QUESTION 13 WHAT ADDITIONAL FUNDING AND PERSONNEL RESOURCES WILL BE REQUIRED AS A RESULT OF THESE ADDITIONAL RESPONSIBILITIES?

ANSWER

NRC'S OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS HAS ESTABLISHED A TASK FORCE TO ASSESS THE IMPACT OF THIS ACT ON CURRENT NRC LOW-LEVEL WASTE PROGRAM PRIORITIES AND RESOURCE REQUIREMENTS. NRC WAS ALREADY WORKING ON SOME OF THE ACTIVITIES REQUIRED UNDER THE NEW LAW AT THE TIME OF ITS ENACTMENT. THE PLANS DEVELOPED BY THE TASK FORCE WILL ENABLE THE NRC TO ESTIMATE THE ADDITIONAL RESOURCES, IF ANY, THAT WOULD BE NECESSARY TO COMPLY WITH THIS ACT. THE TASK FORCE REPORT SHOULD BE COMPLETED BY MAY 1986.

QUESTION 14: WILL A SUPPLEMENTAL OR AMENDED BUDGET REQUEST BE MADE BY OMB TO FUND THESE NEW RESPONSIBILITIES? CAN THIS WORK BE ACCOMPLISHED WITHIN THE 1987 REQUEST?

ANSWER

THE MILESTONES IN THE ACT REQUIRE THAT IN-HOUSE STAFF BE DIVERTED FROM OTHER ACTIVITIES TO ADDRESS THE ACT'S REQUIREMENTS. AT PRESENT WE EXPECT TO BE ABLE TO ACCOMPLISH THIS WORK WITHIN THE 1987 AGENCY REQUEST AND DO NOT PLAN TO PROPOSE A SUPPLEMENTAL OR AMENDED BUDGET REQUEST.

QUESTION 15: WHY HAVE ACTUAL EXPENDITURES FOR THE OFFICE OF INTERNATIONAL PROGRAMS BEEN SUBSTANTIALLY LESS THAN FUNDS REQUESTED OVER THE PAST SEVERAL YEARS?

ANSWER

Expenditures for the Office of International Programs have been less than requested due to lower than anticipated costs for studies on export licensing, non-proliferation policy, and bilateral agreements. In addition, the office funds occasional assignments of staff specialists to the IAEA. These assignments have not occurred on a periodic basis, thus the fluctuation in expenditures.

QUESTION 16: Provide a table for the record which shows expenditures by object classification in the Office of International Programs for the past 3 years of record.

ANSWER

The following is a table by object classification for the Office of International Programs:

(Dollars in Thousands)

	FY 1983	FY 1984	FY 1985
Salaries & Benefits.	1,345	1,361	1,500
Program Support	80	6	50
Administrative Support	380	395	450
Official Representation	1	3	3
Travel	59	80	58
Total	1,865	1,845	2,061

QUESTION 17: EXPLAIN, SPECIFICALLY, WHAT ACCOUNTS FOR THE NEED TO INCREASE THE FUNDING REQUEST FOR THE OFFICE FOR ANALYSIS AND EVALUATION OF OPERATIONAL DATA BY 42%, FROM $3.2 MILLION TO $4.6 MILLION IN 1987.

ANSWER

THE FUNDING REQUEST FOR THE OFFICE FOR ANALYSIS AND EVALUATION OPERATIONAL DATA (AEOD) HAS BEEN INCREASED IN FY87 BY THE TRANSFER OF A NUMBER OF DATA COLLECTION PROGRAMS, AND THEIR ASSOCIATED FUNDING, FROM THE NRC OFFICE OF NUCLEAR REGULATORY RESEARCH TO AEOD. THIS TRANSFER OF FUNDING AND RESPONSIBILITY WAS DONE TO CONSOLIDATE THE NRC PROGRAM FOR THE COLLECTION OF RELIABILITY DATA IN A SINGLE NRC OFFICE.

IN ADDITION, FUNDING WAS ADDED TO AEOD'S BUDGET TO SUPPORT THE NRC'S NEWLY ESTABLISHED INCIDENT INVESTIGATION PROGRAM. THIS PROGRAM PROVIDES FOR THE ESTABLISHMENT OF INCIDENT INVESTIGATION TEAMS THAT CONDUCT INVESTIGATIONS TO DETERMINE THE FACTS ASSOCIATED WITH SIGNIFICANT OPERATIONAL INCIDENTS AT NRC LICENSED FACILITIES.

QUESTION 18: THE BUDGET REQUEST FOR PROGRAM SUPPORT RELATED TO PROGRAM DIRECTION AND ADMINISTRATION INCREASES THE FUNDING FOR THE STAFF OFFICES OF THE COMMISSION AND THE SECRETARY BY 50 PERCENT OR MORE. TO OFFSET THESE INCREASES, THE BUDGET PROPOSES TO REDUCE THE OFFICE OF SMALL AND DISADVANTAGED BUSINESS UTILIZATION AND CIVIL RIGHTS BY 60 PERCENT.

(A) WHY IS SUCH A LARGE REDUCTION IN SDBU/CR WARRANTED?

ANSWER

THE REDUCTION FOR OSDBU/CR IN FY 1987 IS A RESULT OF A PEAK IN FY 1986 FOR FUNDING THE DEVELOPMENT OF A SMALL BUSINESS DIRECTORY AND ADDED FUNDING FOR RESEARCH GRANTS TO HISTORICALLY BLACK COLLEGES.

QUESTION 18: (B) WHAT SPECIFICALLY ACCOUNTS FOR THE LARGE INCREASES IN OCM AND SECY?

ANSWER

THE INCREASE OF $60,000 IN FY 1987 FOR OCM IS TO PROVIDE FOR TECHNICAL ASSISTANCE CONTRACTS TO SUPPORT THE COMMISSIONERS. THE FY 1987 INCREASE FOR SECY OF $120,000 REFLECTS THE BI-YEARLY FUNDING CYCLE FOR HEARING TRANSCRIPTION SERVICES FOR COMMISSION MEETINGS. THIS CONTRACT IS SCHEDULED FOR FUNDING AGAIN IN FY 1987.

QUESTIONS SUBMITTED BY SENATOR MCCLURE

QUESTION 19 PLEASE PROVIDE THE FOLLOWING INFORMATION:

A - NRC ORIGINAL FUNDING REQUEST TO OMB

B - OMB PASSBACK

ANSWER

A COPY OF NRC'S ORIGINAL BUDGET REQUEST TO OMB AND OMB'S INITIAL PASSBACK ARE ATTACHED. ALSO ATTACHED IS INTERNAL NRC CORRESPONDENCE WHICH REFLECTS OMB'S FINAL MARK.

ATTACHMENTS:
AS STATED

[NOTE: NRC's formal submission to OMB was placed in the subcommittee files.]

FY 1987 Budget
Nuclear Regulatory Commission
($ in millions)

Appropriation: Nuclear Regulatory Commission
Decision Unit:
Organization: Salaries and Expenses

FTE Request	FTE's Allow.	BA Request	1986 Level	BA Allow.	Appeal Final Allow.	Description of Allowance	Appeal/Comment
3491	3247	470	410	350		(See below and attached)	

The OMB allowance is $60 million below the 1986 level and $120 million below the NRC request. The reductions assume the following:

1. PBF: NRC funding is reduced $12M from the request. OMB is proposing to transfer the responsibility for clean-up and disposition of spent fuel at this facility from the NRC to DOE.

2. RES: NRC funding is reduced $60M from the request. As in past years, OMB urges NRC to reduce the scope of federally funded research activity. Necessary research efforts above $70M should be pursued through requiring that research data should be provided by the licensee. NRC should assure that the research is conducted in a manner that meets with NRC's approval.

3. FTE's: Reduction of 244 FTE's from the 1986 level. Reduction can be accomplished through attrition and reassignment of personnel. Out of 244, the NRC should make proportionate reductions from staff that report directly to the Commission. This is consistent with past OMB and Congressional recommendations.

4. Nuclear Waste: As in past years, OMB urges NRC to prepare legislation which will request that Congress appropriate funds from the Nuclear Waste Fund to NRC. These funds will be for activities leading to the licensing of a waste repository.

5. NRC User Fees: Consistent with the intent of the House-passed Reconciliation Bill, OMB urges the NRC to prepare legislation which will provide the authority for NRC to collect fees from NRC licensees up to 50% of the amount in the annual budget. OMB suggests that these funds be returned to the General Fund of the Treasury and not offset annual appropriations. OMB notes that imposing costs on the end user, although to a lesser extent, is a current practice at the NRC.

Summary of NRC Budget
($ in Millions)
Personnel in Parens (FTE's)

Nuclear Regulatory Commission	1985 Actual	1986 Enacted	1987 NRC Req.	1987 OMB Rec.
Nuclear Reactor Regulation.....	76.6 (718)	70.6 (716)	77.2 (705)	55 (600)
Inspection and Enforcement.....	77.0 (1096)	76.5 (1140)	81.3 (1147)	78 (1140)
Nuclear Material Safety and Safeguards...............	34.3 (350)	34.4 (370)	37.4 (370)	27 (370)
Nuclear Regulatory Research....	143.5 (230)	122.0 (207)	130.8 (205)	78 (175)
Program Technical Support......	25.5 (365)	23.7 (355)	27.7 (357)	23 (337)
Program Direction and Administration...............	34.3 (732)	30.8 (703)	33.6 (707)	29 (625)
Administrative Support.........	56.7	60.0	69.9	60
PDF			12.0	
TOTAL BA	448	418	478	350
BO	451	418	464	350
TOTAL FTE's	3491	3491	3491	3247
NRC User Fees...............	80	60	50	175

December 19, 1985

MEMORANDUM FOR: Chairman Palladino

FORM: William J. Dircks
Executive Director for Operations

SUBJECT: FY 1987 BUDGET ESTIMATES - OMB MARK

As a result of your recent discussions with OMB, OMB has added $55 million and 122 FTEs to their original FY 1987 budget passback. This results in a final FY 1987 OMB Mark for NRC of $405 million and 3,369 FTEs. This mark is $73 million and 122 FTEs below the Commission's FY 1987 budget request and $26.3 million and 122 FTEs below NRC's FY 1986 current estimate.

The FY 1987 funding and staffing estimates have been revised to reflect the initial allocation of the OMB Mark and are summarized in Attachments 1 and 2. A preliminary assessment of the impact of the OMB reductions to the agency's major programs is also included in Attachment 1. I will provide a more detailed assessment of these reductions in early January.

(Signed) Jack W. Roe

William J. Dircks
Executive Director
for Operations

Attachments:
As stated

cc: Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal
Commissioner Zech
Office Directors
Regional Administrators

Distribution:
WJDircks
JWRoe
VStello
TRehm
EDO r/f
DEDO r/f
PRabideau

	FY 1986 Current Estimate	FY 1987 NRC Request	FY 1987 Allocation of OMB Mark	FY 1987 Change from Request	
IE	17.8	19.1	16.6	-2.5	°Delay upgrade to incident response program °Reduce EP/ERF contractor support °Reduce vendor inspection support °Reduce capability by one-half for problem plant support
NMSS	16.4	18.6	15.2	-3.4	°Reduce UR regulatory policy development and guidance °Delay improvements to NMMSS and LMS systems °Reduced material contamination event response °Delay improvements to transportation codes °Delay review of advanced fuel fabrication pilot plant and fuel facility environmental assessments °Delay development of improved safeguards regulatory guidance °Delay LLW remedial action program °Delay evaluation of alternative LLW disposal technologies

	FY 1986	FY 1987			
	Current Estimate	NRC Request	Allocation of OMB Mark	Change from Request	
ES	118.4	126.6	98.5	-28.1	°Terminate health, occupational protection and human reliability programs °Reduce by one-half PRA application and regulatory analysis activities °Terminate NRU fuel experiments and reduce severe accident analysis °Eliminate either the MIST experiments or thermal/hydraulic integral facility °Hold HLW research to FY86 level °Reduced separate effects and plant analyzer efforts °Reduced reactor pressure vessel and NDE fracture mechanics research °Terminate ACRR fuel studies and fission product release experiments °Delay transfer of seismic network

U.S. NUCLEAR REGULATORY COMMISSION
FY 1987 BUDGET ESTIMATES - OMB MARK
(Dollars in Millions)

	FY 1986 Current Estimate	FY 1987 NRC Request	FY 1987 Allocation of OMB Mark	FY 1987 Change from Request	
(FTE's)	(3,491)	(3,491)	(3,369)	(-122)	
TOTAL FUNDING	$431.3 1/	$478.0	$405.0	-$73.0	
Salaries & Benefits	171.5	175.5	168.4	-7.1	°Consistent with 122 FTE reduction
Travel	9.5	11.0	9.5	-1.5	°Hold at FY86 level
Administrative Support	60.1	69.9	60.0	-9.9	°Reduce costs associated with lower staff levels °No relocation service °No Telecom modernization °Reduction of guard services °Reduce DCS operations and no LPDR 24X-microfiche program °Delays in CDN development
PPOGRAM SUPPORT	190.2	221.6	167.1	-54.5	
NRR	30.9	35.7	28.1	-7.6	°Do not continue ISAP Program °Cut by one-half review of licensee PRA's °Reduce general safety studies °Eliminate contractor support for review of advanced reactor concepts °Reduce code analysis/maintenance and improvements to risk assessment methodologies

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1/ Includes the $418 million appropriation and $13.3 million in unobligated carryover (includes $2.3 million commitments from FY 1985).

	FY 1986 Current Estimate	FY 1987 NRC Request	FY 1987 Allocation of OMB Mark	FY 1987 Change from Request	
PTS	4.8	7.6	6.9	-0.7	°Reduced reliability data program
PDA	1.9	2.0	1.8	-0.2	°Reduced cost analysis support
PBF	0	12.0	0	-12.0	°OMB to transfer deactivation responsibility to DOE

U.S. NUCLEAR REGULATORY COMMISSION
FY 1987 BUDGET ESTIMATES - OMB MARK
(FTE's)

Program	FY 1986 Current Estimate	FY 1987 NRC Request	FY 1987 Allocation of OMB Mark	FY 1987 Change from Request	
TOTAL	3,491	3,491	3,369	-122	
NRR	716	705	683	-22	°ISAP Program °General
IE	1,140	1,147	1,137	-10	°EP, vendor and incident response
NMSS	370	370	360	-10	°Fuel Cycle, Safeguards, Low-Level Waste and Uranium Recovery
RES	207	205	180	-25	°Technical program reduction
EDO	733	747	717	-30	
COM	325	317	292	-25	

NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

January 9, 1985

MEMORANDUM FOR: Chairman Palladino

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: REVISED BUDGET ESTIMATES

Attached are the revised FY 1985 and FY 1986 budget estimates which reflect final OMB action on resource levels for the Nuclear Regulatory Commission. In FY 1985, the Office of Management and Budget reduced our budget by $4.3 million in accordance with Section 2901 of the Deficit Reduction Act and directed the NRC to absorb the full impact of the January 1985 pay raise, estimated at $5.6 million. In FY 1986, the President's budget request for the NRC will total $429 million and reflect a staffing level of 3,491 FTE's, the same personnel level as in FY 1985.

The revised funding and staffing estimates* are summarized in Attachments 1 and 2 which reflect our recent discussions. These estimates will be used in preparation of the FY 1986 President's budget (NRC Green Book) and include planning estimates for FY 1987 in accordance with biennial authorization procedures. The proposed FY 1987 planning estimates hold the agency at the same funding and staffing levels as in FY 1986 and shift some resouces from reactor licensing/to inspection. The impact of the OMB FY 1986 reduction to the agency's major programs and administrative support is described in Attachment 3. The OMB authorized FY 1985 and FY 1986 funding and staffing levels will severely constrain our ability to improve the regulatory process and accommodate any critical unplanned requirements. These resource levels are such that we can no longer stretch out and reduce effort on desired program initiatives but must eliminate those which are of low priority in support of our responsibilities to protect the public health and safety.

Consistent with the current schedule for submission of the President's budget to Congress on February 4, 1985, the NRC Green Book will be submitted to the Commission for review by January 21, 1985. The Green Book must be provided to OMB for review by January 28, and submitted to the Congress on February 4. Your comments on the attached are requested by January 11, 1985, to finalize preparation of the Green Book.

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*It is my understanding that you will provide further details and comments on staffing to the Commissioners. I will be providing my comments on this matter in a separate memorandum. In the meantime, I would hope that the tables we submit in our Congressional budget submission will continue to support the 3,491 FTE staffing level.

(Signed) William J. Dircks

William J. Dircks
Executive Director for Operations

U. S. NUCLEAR REGULATORY COMMISSION
FY 1986 PRESIDENT'S BUDGET
(DOLLARS IN MILLIONS)

	FY 1985 CURRENT ESTIMATE	FY 1986			FY 1987		
		NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM CHANGE	NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST
(FTE's)	(3,491)	(3,731)	(3,491)	(- 240)	(3,717)	(3,491)	(-226)
SALARIES & BENEFITS	$170.5	$180.0	$164.0	-$ 16.0	$179.3	$164.0	$-15.3
TRAVEL	10.0	12.0	10.0	- 2.0	12.0	10.0	- 2.0
ADMINISTRATIVE SUPPORT	56.8	69.9	60.0	- 9.9	68.3	60.0	- 8.3
PROGRAM SUPPORT:							
- NRR	35.0	44.8	30.0	- 14.8	41.1	29.0	-12.1
- IE	19.4	27.3	19.0	- 8.3	27.4	20.0	- 7.4
- NMSS	17.4	21.0	17.0	- 4.0	20.2	17.0	- 3.2
- RES	133.2	166.9	122.0	- 44.9	163.2	122.0	-41.2
- PTS	5.6	5.6	5.0	- 0.6	5.6	5.0	- 0.6
- PDA	1.7	2.3	2.0	- 0.3	2.3	2.0	- 0.3
TOTAL	$449.6 1/	$529.8	$429.0	-$100.8	$519.4	$429.0	$-90.4

1/ 1985 APPROPRIATION ($448.2) + UNOBLIGATED CARRYOVER ($5.7) - DEFICIT REDUCTION ($4.3)

U. S. NUCLEAR REGULATORY COMMISSION
FY 1986 PRESIDENT'S BUDGET
(FTE'S)

PROGRAM	FY 1985 CURRENT ESTIMATE	FY 1986			FY 1987		
		NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST	NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST
NRR	718	783	718	- 65	795	706	- 89
IE	1,096	1,194	1,132	- 62	1,168	1,148	- 20
NMSS	350	395	370	- 25	397	370	- 27
RES	230	242	218	- 24	242	214	- 28
PTS	365	372	347	- 25	366	347	- 19
PDA	732	745	706	- 39	749	706	- 43
TOTAL	3,491	3,731	3,491	- 240	3,717	3,491	-226

FY 1986 BUDGET SUMMARY
(DOLLARS IN MILLIONS, PERSONNEL IN FTE's)

NUCLEAR REACTOR REGULATION	FY 1985 CURRENT ESTIMATE	FY 1986		
		NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST
PROGRAM SUPPORT $	$35.0	$44.8	$30.0	-$14.8
(FTE)	(718)	(783)	(718)	(- 65)

ACTIVITIES MAINTAINED WITH OMB MARK

- MAINTAIN OPERATING REACTOR PROGRAM , BUT DELAY COMPLETION OF ABOUT 250 LOW PRIORITY LICENSEE REQUESTED AMENDMENTS.
- ADMINISTER INITIAL, REPLACEMENT AND REQUALIFICATION EXAMINATIONS TO REACTOR OPERATORS.
- PERFORM ALL ROUTINE AND DIRECT ACTIVITIES RELATED TO OPERATING LICENSE (OL) REVIEWS IN ACCORDANCE WITH SCHEDULES IN THE BEVILL REPORT; REVIEW STANDARD PLANT DESIGNS.
- CONTINUE TO RESOLVE USI'S AND HIGH PRIORITY GSI'S. APPLY ABOUT 50% OF PLANNED EFFORT ON HIGH PRIORITY HUMAN FACTORS ISSUES. CONTINUE TO PRIORITIZE POTENTIAL GENERIC ISSUES.
- IMPLEMENT SEVERE ACCIDENT POLICY STATEMENT BEING REVIEWED BY COMMISSION, REGULATORY CHANGES WHICH MIGHT RESULT FROM REASSESSMENT OF RADIOACTIVE SOURCE TERMS, AND SAFETY GOALS.
- MAINTAIN ONLY ONSITE TMI-2 CLEANUP ACTIVITIES.

Nuclear Reactor Regulation
Activities Impacted by OMB Mark

- Do not implement pilot Integrated Safety Assessment Program (ISAP)
- Do not plan to restart review OL applications for plants that have been deferred.
- Do not resolve medium priority generic safety issues, including medium priority issues resulting from the TMI accident.
- Do not resolve medium priority Human Factors Issues, including issues resulting from the TMI accident.
- Do not develop criteria and interact with industry regarding the review of potential advanced reactor designs.
- Eliminate Headquarters TMI Program Office.
- Delay review and implementation of approximately 250 operating reactor licensing actions.

INSPECTION & ENFORCEMENT	FY 1985 CURRENT ESTIMATE	FY 1986 NRC REQUEST	FY 1986 ALLOCATION OF OMB MARK	FY 1986 CHANGE FROM REQUEST
PROGRAM SUPPORT $	$19.4	$27.3	$19.0	-$8.3
(FTE)	(1,096)	(1,194)	(1,132)	(-62)

ACTIVITIES MAINTAINED WITH OMB MARK

- CONDUCT REGION BASED INSPECTION PROGRAM AT FY 1985 LEVELS AT POWER REACTORS UNDER CONSTRUCTION, IN PRE-OPERATIONAL TESTING, AND AT OPERATING PLANTS.
- CONDUCT REGION BASED INSPECTIONS WITH MODEST SPECIALIZED TECHNICAL CONTRACT SUPPORT AT REACTORS IN OUTAGE.
- CONDUCT RESIDENT INSPECTION PROGRAM AT REACTORS IN OPERATION WITH SINGLE UNIT OPERATING SITES (1 PER SITE) AND MULTI-UNIT SITES (2 PER SITE) AT FY 1985 LEVELS.
- PROVIDE SECOND RESIDENT INSPECTOR AT CONSTRUCTION SITES AND AT REACTORS UNDERGOING PREOPERATIONAL TESTING.
- CONDUCT 4 CONSTRUCTION APPRAISAL TEAM INSPECTIONS AND 3 PERFORMANCE APPRAISAL TEAM INSPECTIONS.
- CONDUCT INSPECTION PROGRAM AT FY 1985 LEVEL AT NON-POWER REACTORS.
- CONDUCT 3 INTEGRATED DESIGN INSPECTIONS.
- REVIEW 3 INTEGRATED DESIGN VERIFICATION PROGRAMS.
- CONDUCT QUALITY ASSURANCE LICENSING REVIEWS OF REACTORS AND PURSUE QA INITIATIVES FOR OPERATING REACTORS AND REACTORS IN CONSTRUCTION.
- CONDUCT VENDOR INSPECTIONS WITH LIMITED TECHNICAL ASSISTANCE.

SPECTION & Enforcement

ACTIVITIES MAINTAINED WITH OMB MARK (CONTINUED)

- Evaluate licensee events and identify generic issues.
- Maintain and operate NRC Operations Center.
- Provide technical assistance for allegations.
- Conduct SALP reviews for all reactors.
- Conduct Fuel Facilities Inspections and Material Inspections at FY 1985 level.
- Develop and conduct specialized technical training for inspectors and other NRC technical personnel.

ACTIVITIES IMPACTED BY OMB MARK

- Provide reduced support to investigations (80% of planned).
- Eliminate all quality assurance initiatives for future reactor plants.
- No resources to assign a second resident inspector at single reactor operating sites.
- Reduce region-based operating reactor inspections in such areas as maintenance, surveillance, quality assurance, fire protection, physical security, radiological safety, and emergency preparedness.
- Reduce technical assistance for vendor inspections in the areas of metallurgy, welding, NDE, design, ASME code and components.
- Delay inspections of emergency response facilities.
- Reduce inspection support to investigations, allegation followup, and problem facilities.
- Reduce periodic aerial radiological measurement surveys.

- REDUCE AND DELAY VERIFICATION OF LICENSEE ENVIRONMENTAL SAMPLES.
- DELAY DEVELOPMENT OF EMERGENCY RESPONSE DATA SYSTEM.
- ELIMINATE DEVELOPMENT OF IMPROVED DOSE ASSESSMENT SYSTEM.
- REDUCE EFFORTS TO APPLY PRA TO THE INSPECTION PROGRAM.

		FY 1986		
NUCLEAR MATERIALS SAFETY & SAFEGUARDS	FY 1985 CURRENT ESTIMATE	NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST
PROGRAM SUPPORT $	$17.4	$21.0	$17.0	-$4.0
(FTE)	(350)	(395)	(370)	(-25)

ACTIVITIES MAINTAINED WITH OMB MARK

- PERFORM LICENSING CASEWORK -- WITH GROWING BACKLOG IN NUCLEAR MATERIALS AND SAFEGUARDS.
- MAINTAIN CURRENT SCHEDULES ON SAFEGUARDS EFFECTIVENESS REVIEWS OF 18 REVIEWS PER YEAR -- DESIRED ACCELERATION NOT POSSIBLE.
- MAINTAIN OVERVIEW OF DOE WEST VALLEY WASTE DEMONSTRATION ACTIVITIES AT ADEQUATE LEVEL.
- REVIEW OF REMEDIAL ACTIONS OF CONTAMINATED SITES.
- PARTICIPATION IN US/IAEA SAFEGUARDS PROGRAM.
- REVIEW OF ONE APPLICATION FOR LLW DISPOSAL SITE.
- REVIEW OF DOE MILL TAILINGS REMEDIAL ACTION PLANS.

- Provide Technical Assistance to Agreement States.
- NWPA Activities - Supported Below Optimum Level.
  - Preapplication Consultation at DOE Sites
  - Development of NRC Licensing Assessment Capabilities
  - Analysis of DOE Site Characterization Plans
  - Pre-Licensing Guidance to DOE for MRS Proposal
  - Consultation with DOE on Transportation Issues
  - Development of Requirements for Generic Licensing of Dry Cask Storage
  - Development of Criteria for Transferring Formerly Licensed Sites to DOE

Nuclear Materials Safety & Safeguards Activities Impacted by OMB Mark

- Likely Delay DOE's Initiation of Shaft Construction and At-depth Site Characterization Work. (2-6 months delay)
  - result in delay of submission of license application
- All but Eliminates our Overview of DOE's Crystalline Program and Early Review of DOE's Site Screening Documents.
- Delays HLW Rulemaking Schedule (Part 60). (3-6 months delay)
- Delays Development of NRC Licensing Guidance for DOE's Repository Program. (4-6 months delay)
- Eliminates acceleration of Safeguards Effectiveness Reviews by 8 per year.
- Reduces Response to Materials Operating Events.
- Delays Revision of NRC Rules to Conform to EPA Standards (Part 40). (4-6 months delay)
- Reduces to minimum level effort to resolve differences with EPA - Mill Tailings; Low Level Waste; High Level Waste.

- ELIMINATES IMPROVEMENT IN SPECIAL NUCLEAR MATERIAL TRACKING SYSTEM.
- ELIMINATES REDUCTION IN GROWING NUCLEAR MATERIALS AND SAFEGUARDS CASELOAD BACKLOGS.

FOR HLW DELAYS, THIS MOVES NRC TO THE CONSTRAINING CRITICAL PATH ITEM FOR THE NATIONAL PROGRAM. THE ACTUAL DELAYS ARE ESTIMATED TO BE TWO TO SIX MONTHS. THE IMPACT OF THESE DELAYS IS A PERCEPTION THAT THE FEDERAL AGENCIES INVOLVED IN THIS NATIONAL PROGRAM CANNOT CONCEIVE AND MANAGE A PROGRAM THAT PROVIDES PUBLIC CONFIDENCE IN THE CONTINUATION OF NUCLEAR POWER AS A VIABLE OPTION FOR THE NATIONS ENERGY NEEDS. FOR EXAMPLE, THE INITIATION OF SHAFT CONSTRUCTION IS THE FIRST MAJOR EFFORT IN THE CHARACTERIZATION PROGRAM LEADING TO A REPOSITORY--IT HAS HIGH SYMBOLIC VALUE IN DEMONSTRATING THE FEDERAL GOVERNMENTS ABILITY AND COMMITMENT TO MANAGE THIS NATIONAL PROGRAM. DUE TO TIME CONSTRAINTS, WE HAVE BEEN UNABLE TO COORDINATE THE RESULTS OF ANY DELAYS WITH DOE TO DETERMINE ADDITIONAL DOE COST IMPACTS RESULTING FROM THE DELAY.

FOR REVISIONS TO PART 40, NRC WAS ORIGINALLY REQUIRED BY CONGRESS TO COMPLETE THIS ACTION BY APRIL 1984. DUE TO ISSUES RAISED DURING OUR ACTIONS TO COMPLY, THE CONFORMING RULEMAKING WAS SET ON A SCHEDULE FOR COMPLETION IN FY87. THIS CUT WILL ADD FOUR TO SIX MONTHS TO THAT SCHEDULE WHICH WILL EXTEND THE TIME FOR WHEN COMPLIANCE BEGINS TO TAKE PLACE.

NUCLEAR REGULATORY RESEARCH	FY 1985 CURRENT ESTIMATE	FY 1986		
		NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST
PROGRAM SUPPORT $	$133.2	$166.9	$122.0	$-44.9
(FTE)	(230)	(242)	(218)	(-24)

THE ATTACHED TABLE DETAILS BY PROGRAM THOSE ACTIVITIES MAINTAINED WITH THE OMB MARK AND THOSE IMPACTED. THE FOLLOWING PROVIDES FURTHER DESCRIPTION OF THE ACTIVITIES IMPACTED BY THE OMB MARK.

ACTIVITIES IMPACTED BY OMB MARK

THE PRINCIPLE IMPACT OF THE OMB REDUCTIONS FOR THE RESEARCH PROGRAMS DISCUSSED BELOW RESULTS IN THE AGENCY'S INABILITY TO QUANTIFY THE AMOUNT OF REGULATORY CONSERVATISM. GENERALLY, THESE CONSERVATIVE POSITIONS COULD LEAD TO (1) EXPENDING INDUSTRY AND NRC RESOURCES TO CONDUCT UNNECESSARY ANALYSES; (2) UNNECESSARY REDUCTIONS IN PLANT ELECTRICAL POWER GENERATION AND (3) UNNECESSARY PLANT SHUTDOWNS, PENDING RESOLUTION OF PROBLEMS WHEN THEY ARISE.

REACTOR ENGINEERING

- TERMINATION OF WORK TO DETERMINE EFFECT OF CLADDING ON PRESSURE VESSEL BEHAVIOR WILL RESULT IN A MORE CONSERVATIVE NRC POSITION IN THE PRESSURIZED THERMAL SHOCK RULE.
- TERMINATION OF INSTRUMENTATION AND CONTROL WORK WILL LEAD TO UNCERTAINTIES REGARDING CAPACITY OF PLANT SHUTDOWN SYSTEMS TO PERFORM UNDER CONDITIONS NOT PREVIOUSLY ANALYZED.
- TERMINATION OF EFFORTS ON CONTAMINATION OF FUEL STORAGE FACILITIES BY FAILED FUEL WILL LEAD TO UNCERTAINTIES REGARDING EQUIPMENT AND PROCEDURES NECESSARY FOR HANDLING AND RECOVERY OF FUEL PLACED IN MONITORED RETRIEVABLE STORAGE FACILITIES.

THERMAL HYDRAULIC TRANSIENTS

- TERMINATION OF PLANNING EFFORT FOR A MODULAR TEST FACILITY WILL STOP IMPLEMENTATION OF A FLEXIBLE U.S. TEST FACILITY TO PROVIDE REACTOR SYSTEM BEHAVIOR INFORMATION UNDER ACCIDENT OR SEVERE TRANSIENT CONDITIONS IN ORDER TO PERMIT FUTURE RESPONSE TO UNUSUAL PLANT UPSET CONDITIONS, E.G. TMI.

ACCIDENT EVALUATION

- TERMINATION OF ALL WORK BEYOND DEGRADED CORE EXCEPT TO ENVELOPE SEVERE ACCIDENTS FOR CONTAINMENT LOADS WILL RESULT IN UNCERTAINTIES IN THE IMPLEMENTATION OF SEVERE ACCIDENTS POLICY AND GREATER RELIANCE ON CONSERVATIVE SOLUTIONS.
- TERMINATES ALL HTGR RELATED REACTOR SAFETY RESEARCH WHICH WOULD SIGNIFICANTLY DELAY NRC REVIEW OF ANY INDUSTRY INITIATIVES.
- NO NRC FUNDS PROVIDED FOR PRF DECONTAMINATION AND DECOMMISSIONING ACTIVITIES. DOE WOULD HAVE TO ASSUME ALL RESPONSIBILITIES FOR PBF FACILITY.

REACTOR OPERATIONS AND RISK

- SIGNIFICANT REDUCTION IN HUMAN FACTORS RESEARCH WILL RESULT IN LACK OF TECHNICAL BASIS FOR THE DEVELOPMENT OF REGULATORY POSITIONS.

WASTE MANAGEMENT, EARTH SCIENCES, AND HEALTH

- REDUCTION IN HIGH LEVEL WASTE RESEARCH WILL RESULT IN DELAYS IN DEVELOPMENT OF INDEPENDENT PERFORMANCE MODEL DEVELOPMENT FOR BASALT AND TUFF BY TWO TO THREE YEARS AND POSSIBLE DELAYS IN THE LICENSING PROCESS. TECHNICAL BASIS FOR MODELS TO EVALUATE DOE PERFORMANCE DEMONSTRATION WILL BE FROZEN TO WHAT WE KNOW TODAY.
- DEFERMENT OF LOW LEVEL WASTE MANAGEMENT RESEARCH WILL NECESSITATE UNDUE CONSERVATISM IN THE LICENSING OF LLW DISPOSAL BY THE NRC OR NRC AGREEMENT STATES.

NUCLEAR REGULATORY RESEARCH

FY 1986 BUDGET
(DOLLARS IN MILLIONS)

ACTIVITIES IMPACTED BY OMB MARK		ACTIVITIES MAINTAINED WITH OMB MARK	
REACTOR ENGINEERING			
$ 1.7	ELIMINATE FRAGILITY TESTS	$ 4.7	SEISMIC DESIGN WORK
1.9	REDUCE HSST	3.5	FOCUS ON SYSTEM STRUCTURAL RESPONSE & SYSTEMS INTERACTION FOR VALIDATED SEISMIC PRA METHOD.
1.6	TERMINATE INSTRUMENTATION & CONTROL	4.3	EQUIPMENT QUALIFICATION
2.0	TERMINATE DECOMMISSIONING & SPENT FUEL STORAGE	5.0	EVALUATE CRACK PROPAGATION
$ 7.2		2.3	NDE
		9.9	PRESSURE VESSEL
		5.9	AGING
		2.5	ELECTRICAL EQUIPMENT
		1.2	FIRE PROTECTION
		1.0	POST-ACCIDENT CONDITIONS FOR SEVERE ACCIDENTS
		$40.3	
THERMAL HYDRAULIC TRANSIENTS			
$ 1.0	PLANNING DESIGN OF MODULAR TEST FACILITY	$ 3.4	SEMISCALE
		3.4	MIST
		3.2	2D/3D
		2.0	ROSA IV
		3.2	SEPARATE EFFECTS
		5.5	CODE ASSESSMENT & MAINTENANCE
		1.0	PLANT ANALYZER
		$21.7	
ACCIDENT EVALUATION			
$ 3.6	ELIMINATE ALL WORK BEYOND DEGRADED CORE EXCEPT TO ENVELOPE SEVERE ACCIDENTS FOR CONTAINMENT LOADS	$ 4.0	PBF PIE & ANALYSIS
		3.3	NRU SOURCE TERM
		3.0	ACRR
1.6	GAS-COOLED REACTOR SAFETY RESEARCH	0.5	TMI-2
1.5	TERMINATE LANL & BNL SASA	3.1	DEGRADED CORE ASSESSMENT
0.5	SEVERE ACCIDENT SUPPORT SERVICES	2.6	FISSION PRODUCT CODE ASSESSMENT & MAINTENANCE
0.6	CONTAINMENT LOADING MITIGATION	1.1	HYDROGEN
0.3	CONTAINMENT PERFORMANCE CRITERIA	1.2	CONTAINMENT THERMAL HYDRAULICS

NUCL. REGULATORY RESEARCH

FY 1986 BUDGET
(DOLLARS IN MILLIONS)

ACTIVITIES IMPACTED BY OMB MARK		ACTIVITIES MAINTAINED WITH OMB MARK	
12.0	Do not perform decontamination and decommissioning of PBF facility.	0.5	Accident Energetics
		3.5	Severe Accident Analysis
		2.1	Fission Product Separate Effects
		0.5	Core Material Properties for Codes
		0.9	Fission Product Chemistry
		1.6	Source Term Follow-on Issues
		2.0	Damaged Fuel Codes
		0.8	Uncertainty Analysis
20.1		$30.7	
REACTOR OPERATIONS & RISK			
$ 4.1	Reduce Human Factors	$ 1.0	Human Factors Simulators
0.7	Reduce fuel cycle & transportation	3.0	Risk Methodology Integration & Eval Program
1.0	Reduce Reliability Methodology	1.3	Accident Management
$ 5.8		2.4	Data and Uncertainty
		3.5	Data Systems and rulemaking support
		5.6	Severe Accident work
		0.7	Reliability effort
		$17.5	
WASTE MANAGEMENT, EARTH SCIENCES & HEALTH			
$ 1.5	Reduce Earth Sciences	$ 4.5	Seismic Networks in Eastern U.S.
0.6	Health Effects	2.5	Health Effects and occupational protection
6.9	Reduce High Level Waste	3.0	HLW efforts in waste form leaching, waste container failure modes; groundwater flow in fractured saturated and unsaturated conditions; repository perf assessment
1.8	Reduce Low Level Waste by 50%	1.8	LLW Physical & chemical properties; site performance & monitoring; safety features of alternatives to shallow land burial.
$10.8		$11.8	
TOTAL - $44.9		TOTAL - $122.0	

FY 1986 BUDGET SUMMARY
(DOLLARS IN MILLIONS)

	FY 1985 CURRENT ESTIMATE	FY 1986		
		NRC REQUEST	ALLOCATION OF OMB MARK	CHANGE FROM REQUEST
ADMINISTRATIVE SUPPORT	$56.8	$69.9	$60.0	-$9.9

ACTIVITIES MAINTAINED WITH OMB MARK

- PROVIDES FOR CURRENT LEVEL OF LOGISTIC SUPPORT.
- GSA RENTAL CHARGE INCREASE PROVIDED.
- TELECOMMUNICATION TARIFF INCREASE OF 5% PROVIDED.

ACTIVITIES IMPACTED WITH OMB MARK

- IMPLEMENTATION OF THE CORPORATE SHARED DATA NETWORK WILL BE DELAYED AND NEW APPLICATION AND ENHANCEMENTS WILL BE DEFERRED OR ELIMINATED.
- NO FUNDS FOR CONSOLIDATION OF OFFICE SPACE. WHEN REQUIRED, FUNDS WILL HAVE TO BE OBTAINED THROUGH REPROGRAMMING.
- IMPLEMENTATION OF THE SUBJECT SEARCH PROJECT FOR THE DOCUMENT CONTROL SYSTEM WILL BE STRETCHED OUT.

QUESTION 20: THE COMMISSION'S REQUESTED FUNDING FOR RESEARCH IS MORE THAN $20 MILLION LESS THAN FY86 APPROPRIATED DOLLARS, AND $36.5 MILLION BELOW FY85 FUNDING. WHAT IMPACT DOES THIS SEVERE REDUCTION HAVE ON THE NUCLEAR REGULATORY RESEARCH PROGRAMS?

ANSWER

THE NRC RESEARCH PROGRAM IS THE PRINCIPAL U.S. GOVERNMENT PROGRAM OF NUCLEAR SAFETY RESEARCH AND IS AN ESSENTIAL PART OF OUR REGULATORY PROCESS. IT PROVIDES US WITH THE SOUND TECHNICAL INFORMATION WE NEED TO DEAL EFFECTIVELY WITH COMPLEX TECHNICAL ISSUES IN REACTOR REGULATION, INSPECTION, AND NUCLEAR MATERIAL SAFETY AND SAFEGUARDS.

BETWEEN 1981 AND 1987, THE NUCLEAR REGULATORY RESEARCH PROGRAM WILL HAVE BEEN REDUCED BY MORE THAN $110 MILLION, ABOUT 50 PERCENT. OUR RESEARCH BUDGET WILL BE LOWER IN FY 1987 THAN IT WAS WHEN THE AGENCY WAS FORMED IN 1975 (IN 1975 DOLLARS). JOINT PROGRAMS WITH OTHER PARTIES AND IMPROVED OPERATING ECONOMIES CANNOT MAKE UP FOR THESE REDUCTIONS. ADDED TO THE 50 PERCENT CUTS IN PRIOR YEARS, THE REDUCTIONS IN THE FY 1987 RESEARCH BUDGET WILL MEAN CANCELLATION OF SOME VITAL PROGRAMS AND SIGNIFICANT DELAYS IN OR DEFERRAL OF OTHER IMPORTANT PROGRAMS.

THE ABSENCE OF NEEDED SAFETY INFORMATION CAN LEAD TO UNWARRANTED CONSERVATISM IN THE REGULATORY PROCESS AND COULD LEAD TO LONGER THAN NECESSARY PLANT SHUTDOWNS AND POWER REDUCTIONS. IN THE LONG RUN, IT CAN COST THE PUBLIC MORE BY NOT ADEQUATELY FUNDING THE NRC RESEARCH PROGRAM.

THE NEED TO ADDRESS AND RESOLVE OPERATIONAL SAFETY ISSUES REMAINS THE AGENCIES HIGHEST PRIORITY RESEARCH ACTIVITY AND WILL BE SUPPORTED. EXAMPLES OF OPERATIONAL SAFETY ISSUES ARE:

- CORROSION IN PIPING AND VESSELS,
- RADIATION EMBRITTLEMENT OF REACTOR VESSELS,

- DEFECTIVE VALVES AND RELAYS IN SAFETY SYSTEMS,
- INADEQUATE MEANS FOR DETECTING AND CHARACTERIZING FLAWS IN CRITICAL COMPONENTS,
- STEAM GENERATOR DEGRADATION AT PRESSURIZED WATER REACTORS, AND
- CRACKED PIPING AT BOILING WATER REACTORS.

MANY OPERATIONAL SAFETY QUESTIONS ARE BEING RESOLVED BY RESEARCH AND REGULATORY ACTION, BUT THEY WILL CONTINUE TO ARISE AS PLANTS MATURE AND TECHNOLOGY EVOLVES. THE NRC AS WELL AS INDUSTRY MUST BE PREPARED FOR THESE AND OTHER NEW SAFETY ISSUES. AS SUCH, A STABLE, PROPERLY BALANCED RESEARCH PROGRAM IS ESSENTIAL FOR THE COMMISSION TO CARRY OUT ITS RESPONSIBILITIES FOR EFFECTIVE NUCLEAR SAFETY REGULATION. ALL OTHER RESEARCH ACTIVITIES RECEIVE LOWER PRIORITY SUPPORT AND THEREFORE EITHER ARE DELAYED OR CANCELLED.

QUESTION 21: WHAT ARE THIS COUNTRY'S MOST CRITICAL RESEARCH NEEDS, WHY, AND HOW DOES THE NRC, OFFICE OF RESEARCH PLAN TO MEET THEM?

ANSWER

THE MOST CRITICAL RESEARCH NEEDS CONFRONTING THE SAFE OPERATION OF THE U.S. NUCLEAR INDUSTRY ARE THE FOLLOWING SIX MAJOR RESEARCH AREAS. THESE INCLUDE COMPONENT AGING AND DEGRADATION, TRANSIENT ANALYSIS, SEVERE ACCIDENT CONSEQUENCES, PLANT RISK ANALYSIS, SEISMIC RESEARCH, AND WASTE DISPOSAL.

- AGING AND DEGRADATION OF OPERATING NUCLEAR POWER PLANTS

  CORROSION, RADIATION EMBRITTLEMENT, AND FATIGUE HAVE RAISED SPECIFIC QUESTIONS ABOUT THE CONTINUED SAFETY AND VIABILITY OF MANY OPERATING REACTORS; IN PARTICULAR, CONCERNS WITH THE INTEGRITY OF THE PRIMARY COOLANT PRESSURE BOUNDARY, CRACKED PIPING, DEFECTIVE VALVES AND RELAYS HAVE BEEN RAISED. ANTICIPATED PROPOSALS FOR PLANT-LIFE EXTENSION ARE EXPECTED

TO REQUIRE EXAMINATION IN AREAS SUCH AS: IMPROVEMENT OF SURVEILLANCE AND TEST METHODS FOR COMPONENTS OR SYSTEMS, UPGRADING THE RELIABILITY OF KEY COMPONENTS OR SYSTEMS, DEVELOPING GOOD RELIABILITY ASSURANCE PROGRAMS, AND MAKING THE MODIFICATIONS THAT COME TO LIGHT FROM RESOLUTION OF SAFETY ISSUES.

- OPERATIONAL AND THERMAL HYDRAULIC TRANSIENTS

THE NRC NEEDS TO MAINTAIN THE ABILITY TO EVALUATE RESPONSES OF NUCLEAR POWER PLANTS TO OPERATIONAL TRANSIENTS WITH BROAD SAFETY IMPLICATIONS OR ASSESS INDUSTRY PROPOSED CHANGES TO CORRECT DEFICIENCIES.

WITH NEARLY 100 PLANTS IN THE UNITED STATES AND SEVERAL HUNDRED IN OTHER COUNTRIES, SIGNIFICANT UNANTICIPATED OR UNANALYZED TRANSIENTS CONTINUE TO OCCUR. NRC NEEDS A TECHNICAL BASIS TO UNDERSTAND ACTUAL EVENTS AND THEIR IMPLICATIONS AND TO RESOLVE SAFETY ISSUES. IN EACH CASE, THE NRC MUST PERFORM ANALYSES TO EVALUATE THE EVENT WITH RESPECT TO THE PLANT AT WHICH IT OCCURRED AND FOR PLANTS OF SIMILAR DESIGN. EXPERIMENTAL PROGRAMS ARE REQUIRED SINCE THE EVENT OR ISSUE IS GENERALLY SUFFICIENTLY DIFFERENT FROM EVENTS PREVIOUSLY EVALUATED THAT EXPERIMENTAL CONFIRMATION OF THE COMPUTER CODE APPLICABILITY IS REQUIRED.

- SEVERE ACCIDENTS AND THEIR REGULATORY IMPLICATIONS

IMPLEMENTATION OF THE COMMISSION'S POLICY ON SEVERE REACTOR ACCIDENTS REQUIRES A THOROUGH UNDERSTANDING OF THE PHYSICAL AND CHEMICAL PROCESSES WHICH TAKE PLACE DURING SUCH ACCIDENTS AND ON THEIR POTENTIAL IMPACTS ON PUBLIC HEALTH AND SAFETY. INFORMATION IS BEING DEVELOPED TO PROVIDE THE TECHNICAL BASIS NEEDED TO REVISE CURRENT REGULATORY REQUIREMENTS AND TO ASSESS THE NEED TO BACKFIT ADDITIONAL SAFETY FEATURES ON OPERATING PLANTS.

- PLANT OPERATIONS AND RISK ASSESSMENT

  UNDERSTANDING THE RISK REDUCTION POTENTIAL OF VARIOUS EXISTING AND PROPOSED REGULATORY REQUIREMENTS AND THE RISK REPRESENTED BY SPECIFIC REACTOR CONDITIONS IS REQUIRED TO ESTABLISH THE LIMITING CONDITIONS FOR REACTOR OPERATION.

- SEISMIC DESIGN ANALYSIS

  THERE IS A NEED FOR IMPROVED BASES AND METHODS FOR PROPERLY CHARACTERIZING SEISMIC HAZARD AND SEISMIC MARGINS FOR NUCLEAR POWER PLANTS IN THE EASTERN U.S.

- NUCLEAR WASTE DISPOSAL

  THIS INVOLVES ISSUES RELATED TO WASTE FORM, WASTE PACKAGE INTEGRITY, AND REPOSITORY PERFORMANCE. RESEARCH IS REQUIRED TO ENSURE THAT REGULATORY CRITERIA ARE APPROPRIATE TO PERMIT A SOUND EVALUATION OF PROPOSALS FOR REPOSITORIES AND ASSURE THAT ALL REGULATORY REQUIREMENTS WILL BE MET.

THE NRC RESEARCH PROGRAM IS FOCUSSED ON THESE HIGH PRIORITY SAFETY ISSUES AND IS CAREFULLY STRUCTURED TO FOCUS ONLY ON THOSE TECHNICAL AREAS WHERE AN INDEPENDENT NRC CAPABILITY IS NECESSARY IN ORDER FOR NRC TO PERFORM ITS REQUIRED FUNCTIONS OF PROTECTING PUBLIC HEALTH AND SAFETY. RECENT EXAMPLES WHERE RESEARCH MADE IT POSSIBLE TO MAKE PROMPT TECHNICAL DECISIONS ARE IN THE AREAS OF REACTOR VESSEL BRITTLE FRACTURE AND CRACKING IN LARGE PIPES.

IN ORDER TO BETTER MEET THESE NEEDS, INCREASED COLLABORATIVE RESEARCH EFFORTS INVOLVING PARTIES SUCH AS OTHER GOVERNMENT AGENCIES, THE NUCLEAR INDUSTRY AND FOREIGN ORGANIZATIONS ARE BEING PURSUED.

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:

I BELIEVE THIS COUNTRY'S MOST CRITICAL RESEARCH NEED IS TO FIND WAYS TO SUBSTANTIALLY IMPROVE THE SAFETY OF THE CURRENT GENERATION OF NUCLEAR POWER PLANTS AND TO CONDUCT RESEARCH THAT COULD LEAD TO FUNDAMENTALLY BETTER NUCLEAR POWER PLANTS FOR THE FUTURE. IN MY VIEW, THE CHANCES FOR A CORE MELTDOWN WITHIN THE NEXT 10 TO 20 YEARS IS FAR TOO HIGH AND SHOULD SUCH AN ACCIDENT HAPPEN THE PROSPECTS FOR NUCLEAR POWER CONTRIBUTING TO THIS NATION'S ENERGY NEEDS WILL BE SUBSTANTIALLY DIMINISHED. AS THE COMMISSION HAS SAID, THE CURRENT GENERATION OF NUCLEAR POWER PLANTS CAN BEST BE DESCRIBED AS A COMPLEX TECHNOLOGY THAT IS NOT FULLY MATURE. SIGNIFICANT UNANTICIPATED OR UNANALYZED TRANSIENTS CONTINUE TO OCCUR. THUS, IN MY VIEW, EXPERIENCE SUPPORTS SUBSTANTIAL FUNDING FOR RESEARCH ON IMPROVED SAFETY RATHER THAN DOING NOTHING AS INDICATED IN THE COMMISSION'S RESPONSE TO QUESTION 28.

QUESTION 22: WHAT EFFORTS IS THE COMMISSION MAKING, OTHER THAN CUTTING RESEARCH PROGRAMS TO DEAL WITH THE DECLINING BUDGET?

ANSWER

A DECLINING BUDGET MEANS THAT NRC WILL BE PERFORMING LESS REGULATORY OVERSIGHT ACTIVITIES. OUR CAPABILITIES TO RESPOND TO AND RESOLVE ISSUES FROM UNPLANNED EVENTS SUCH AS DAVIS-BESSE AND TVA IN A COMPREHENSIVE AND TIMELY MANNER WILL BE DISMANTLED AND MANY FORWARD-LOOKING ACTIONS AND PROGRAMS NECESSARY TO MEET FUTURE ISSUES AND CHALLENGES HAVE BEEN REDUCED OR ELIMINATED.

SOME EXAMPLES OF THESE IMPACTS IN PROGRAMS OTHER THAN RESEARCH INCLUDE REDUCING OR ELIMINATING THE FOLLOWING ACTIVITIES: RISK ASSESSMENT, HUMAN FACTORS, ADVANCED REACTOR CONCEPTS AND THE INTEGRATED SAFETY ASSESSMENT PROGRAM IN THE NUCLEAR REACTOR REGULATION PROGRAMS; AND SPECIAL TEAM INSPECTION PROGRAMS FOR CONSTRUCTION SITES, THE EMERGENCY PREPAREDNESS PROGRAMS, AND TECHNICAL SUPPORT FOR PROBLEM FACILITIES IN BOTH CONSTRUCTION AND OPERATION IN THE INSPECTION AND ENFORCEMENT PROGRAMS.

QUESTION 23: HOW MUCH ATTENTION, DIRECTION AND SUPPORT IS GIVEN THE NRC RESEARCH PROGRAM BY THE COMMISSION

ANSWER

THE COMMISSION IS ATTENTIVE TO AND SUPPORTIVE OF THE NRC RESEARCH PROGRAM. THE CHAIRMAN, IN HIS FEBRUARY 19, 1986 TESTIMONY BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS OF THE UNITED STATES SENATE, DEVOTED THE LARGEST SINGLE PART OF HIS PRESENTATION TO THE NEED FOR A STABLE, PROPERLY BALANCED, ADEQUATELY FUNDED RESEARCH PROGRAM. THE CHAIRMAN AND COMMISSIONERS HAVE ADDRESSED THE NEED FOR RESEARCH IN OTHER CONTEXTS BESIDES THE CONGRESSIONAL APPROPRIATION COMMITTEES. TO CITE AN EXAMPLE, ON JULY 8, 1985, CHAIRMAN PALLADINO, IN REMARKS TO THE INTERNATIONAL CONFERENCE ON NUCLEAR POWER PLANT AGING, AVAILABILITY FACTOR, AND RELIABILITY ANALYSIS, STRESSED THE NEED FOR RESEARCH ON THE SUBJECT OF NUCLEAR PLANT AGING, PARTICULARLY, TO IDENTIFY AND CHARACTERIZE AGING AND SERVICE WEAR IN OPERATING NUCLEAR POWER PLANTS AND TO RECOMMEND METHODS FOR INSPECTION, SURVEILLANCE, AND MONITORING OF AGING AND SEVERE WEAR EFFECTS BEFORE SAFETY FUNCTIONS ARE IMPAIRED SO THAT PROPER MAINTENANCE AND TIMELY REPAIR OR REPLACEMENT CAN BE IMPLEMENTED.

THE COMMISSION PROVIDES GENERAL DIRECTION TO THE RESEARCH PROGRAM THROUGH ITS POLICY AND PLANNING GUIDANCE (NUREG-0885) AND THROUGH THE BUDGET FORMULATION PROCESS, BOTH OF WHICH ESTABLISH THE FRAMEWORK IN WHICH THE PROGRAM OPERATES. SPECIFIC DIRECTION IS PROVIDED WHEN NEEDED.

QUESTION 24: HAS THE NRC SUBMITTED A REPORT TO CONGRESS THIS FISCAL YEAR ON RESEARCH RESULTS?

(A) IF SO, PLEASE HIGHLIGHT MAJOR RESULTS AND DESCRIBE WHETHER OR NOT THEY HAVE BEEN INTEGRATED INTO REGULATIONS.

(B) IF THE ANSWER IS NO, PLEASE EXPLAIN.

ANSWER

THE NRC SUBMITTED A REPORT TO CONGRESS IN MID-JANUARY, 1986, WHICH DESCRIBES THE RESEARCH PROGRAM. THE REPORT RESPONDED TO A REQUEST OF THE CONGRESS (HOUSE REPORT 99-93, PAGE 4) THAT NRC PREPARE AND SUBMIT A SUMMARY DESCRIPTION OF EACH RESEARCH PROJECT THE NRC RESEARCH PROGRAM IS A BALANCED PROGRAM FOCUSED ON REGULATORY NEEDS TO PROTECT THE PUBLIC HEALTH AND SAFETY. DUE TO BUDGET CONSTRAINTS, THE NRC HAS HAD TO EITHER ELIMINATE OR STRETCH OUT SOME AREAS OF SAFETY RESEARCH. DURING THE FY 1986 AUTHORIZATION HEARING (HOUSE REPORT 98-103) THE NRC TESTIFIED THAT WORK WOULD NOT BE DONE ON IMPROVED REACTOR SAFETY. WHILE THIS WORK IS NOT EXPRESSLY PROHIBITED, THIS POSITION WAS ENDORSED BY THE HOUSE, COMMITTEE ON INTERIOR AND INSULAR AFFAIRS. THEREFORE, WE HAVE NOT UNDERTAKEN ANY CONCEPTUAL RESEARCH EFFORTS INTENDED TO IMPROVE REACTOR SAFETY.

THE NRC HAS VERY EFFECTIVELY UTILIZED RESEARCH RESULTS TO EITHER PROMULGATE NEW REGULATIONS OR MODIFY EXISTING REGULATIONS WHEN NECESSARY. INSTANCES WHERE RESEARCH RESULTED IN REDUCED OR MORE STRINGENT REGULATIONS ARE PROVIDED BELOW.

o A REVISION OF 10 CFR 20 WAS ISSUED AS A PROPOSED RULE. THIS UPDATE WILL IMPOSE MORE STRINGENT REQUIREMENTS FOR RADIATION PROTECTION IN SOME AREAS, SUCH AS: (A) FOR CERTAIN RADIONUCLIDES, THE INTAKE LIMITS ARE BEING LOWERED; (B) THE MAXIMUM WHOLE BODY DOSE IS REDUCED FROM 12 REMS TO 5 REMS; (C) PART 20 WILL ESTABLISH, FOR THE FIRST TIME, A

LIMIT OF .5 REMS FOR THE EMBRYO/FETUS; AND (D) THE DOSE LIMIT FOR THE EXTREMITIES WILL BE REDUCED FROM 75 REMS DOWN TO 50 REMS.

- THERMAL HYDRAULIC SAFETY ANALYSES AS PART OF ANTICIPATED TRANSIENTS WITHOUT SCRAM (ATWS) RESEARCH REVEALED THAT OVERPRESSURE TRANSIENTS IN BOILING WATER REACTORS CAN RESULT IN COLLAPSE OF VOIDS IN THE CORE WITH AN ACCOMPANYING RAPID INCREASE IN REACTIVITY. LICENSEES WERE REQUIRED TO INSTALL AUTOMATIC PUMP TRIPS UPON OVERPRESSURE FOR ALL BWRS.

- MULTIFUEL-ROD BURST RESEARCH REVEALED THAT LICENSEE ANALYTICAL MODELS USED TO DETERMINE CONFORMANCE TO NRC'S EMERGENCY CORE COOLING REGULATORY REQUIREMENTS (APPENDIX K) WERE INCORRECT IN THREE AREAS: (A) RUPTURED RODS REDUCE FLOW AREA, (B) STRAINED CLAD HAS ENLARGED AREA FOR OXIDATION, AND (C) TIME OF RUPTURE WAS MISUNDERSTOOD. VENDORS HAD TO REVISE THEIR MODELS RESULTING IN SOME FUEL OPERATING LIMIT STRINGENCIES.

- A NEW RULE, 10 CFR 50.61, "FRACTURE TOUGHNESS REQUIREMENTS FOR PROTECTION AGAINST PRESSURIZED THERMAL SHOCK EVENTS," WAS PUBLISHED IN JULY 1985. THE RULE INCORPORATES A "SCREENING CRITERION" THAT EFFECTIVELY LIMITS THE EMBRITTLEMENT PERMISSIBLE BY THE END OF PLANT LIFE; IF EXCEEDED, ADDITIONAL ANALYSIS AND IMPLEMENTATION ARE REQUIRED FOR CONTINUED OPERATION BEYOND THE SCREENING CRITERION LIMIT. THE RES PROGRAM PROVIDED ALL THE METALLURGICAL AND IRRADIATION EFFECTS DATA, PLUS THE ANALYTICAL PREDICTION METHODS NEEDED TO DEVELOP THE RULE AND TO FORMULATE THE SPECIFIC VALUES IN THE SCREENING CRITERION.

- EXEMPTIONS TO GENERAL DESIGN CRITERIA 4 FOR SEVERAL NEAR-TERM OPERATING LICENSES (NTOLS) TO REMOVE SPECIFIC PIPE WHIP RESTRAINTS AND JET IMPINGEMENT BARRIERS, WITH ATTENDANT SAFETY BENEFITS, WERE BASED, IN PART, ON PROBABILISTIC STUDIES ON PIPE RUPTURE PERFORMED BY LAWRENCE LIVERMORE

NATIONAL LABORATORY. FOLLOWING THIS, A LIMITED SCOPE RULEMAKING WAS INITIATED, AND IS ESSENTIALLY COMPLETE, TO PERMIT SUCH REMOVAL WITHIN THE REGULATIONS.

- DAMPING VALUES FOR PIPING SPECIFIED IN R.G. 1.61 WERE MODIFIED BY ASME CODE CASE N-411 BASED UPON EXPERIMENTAL DATA DEVELOPED BY INEL. THIS MODIFICATION PERMITS MORE FLEXIBLE AND THUS MORE RELIABLE PIPING WITH FEWER SEISMIC SNUBBERS.

- RECOMMENDATIONS BY THE PIPING REVIEW COMMITTEE TO THE EDO WERE MADE FOR MODIFYING SRP 3.9.2, AND R.G. 1.92, TO INCORPORATE THE INDEPENDENT SUPPORT MOTION METHOD FOR PIPING, WHICH PROVIDES MORE ACCURATE ESTIMATIONS OF PIPING BEHAVIOR, BASED UPON ANALYTICAL STUDIES PERFORMED BY BNL. ACCEPTANCE OF THIS RECOMMENDATION HAS ASSISTED IMPLEMENTATION OF THE NRC NONMANDATORY SNUBBER REDUCTION PROGRAM.

- COMPLETED RES ANALYSIS OF ONSITE/OFFSITE ELECTRICAL SYSTEMS RELIABILITY NOW BEING USED BY STAFF IN FORMULATING THE RESOLUTION OF UNRESOLVED SAFETY ISSUE A-44, STATION BLACKOUT (REVISION TO 10 CFR 50, APPENDIX A, CRITERIA 17 AND 18).

- RESULTS OF COMPLETED RESEARCH AND CONTRACTOR SUPPORT EFFORTS NOW BEING USED BY THE STAFF TO CONCLUDE WORK ON THE FOLLOWING ADDITIONAL SAFETY ISSUES: (1) B-56, "RELIABILITY REQUIREMENTS FOR DIESEL GENERATORS," AND (2) B-61, "ALLOWABLE OUTAGE TIMES FOR EMERGENCY CORE COOLING SYSTEMS."

- TWO REVISIONS OF 10 CFR 50.44 REQUIRING HYDROGEN CONTROL FOR TWO CLASSES OF LWRS WERE ISSUED BASED ON RES ASSESSMENTS OF THE POTENTIAL CONSEQUENCES OF HYDROGEN IGNITION DURING POSTULATED SEVERE REACTOR INCIDENTS. THE NRC RESEARCH EXPERIMENTS ON HYDROGEN IGNITION AND BURN ENVIRONMENT

IDENTIFIED THE POTENTIAL FOR SIGNIFICANT TEMPERATURES WHICH COULD THREATEN EQUIPMENT SURVIVAL IN SMALL CONTAINMENTS SUCH AS THE ICE CONDENSER PWR AND BWR MARK III. THIS RESULTED IN THE INCLUSION OF THIS CONSIDERATION IN 10 CFR 50.44. ALSO, SUBSEQUENT EXPERIMENTS ESTABLISHED THAT LOCATING IGNITORS IN CONTAINMENT WOULD PROVIDE A COST EFFECTIVE WAY OF LIMITING THE HYDROGEN BUILDUP IN CONTAINMENT FROM AN ACCIDENT AND ASSURE EQUIPMENT SURVIVAL. AS A RESULT NRC REQUIRED THAT LICENSEES INSTALL A HYDROGEN GAS CONTROL SYSTEM.

o NRC RESEARCH SUPPORTED THE DEVELOPMENT OF TECHNICAL CRITERIA FOR 10 CFR 60, ON DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN GEOLOGICAL REPOSITORIES. APPROPRIATE REQUIREMENTS WERE ESTABLISHED FOR WASTE CONTAINMENT, CONTROL OF RELEASE AND MULTIPLE BARRIER DESIGNS.

o RESEARCH IN NONDESTRUCTIVE EXAMINATION (NDE) FOR STAINLESS STEEL PIPING PROVIDED THE TECHNICAL BASIS FOR ISSUANCE OF BULLETIN 83-02.

o 10 CFR 50.49, WHICH DEALS WITH ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY CONTAINS MORE STRINGENT REQUIREMENTS FOR CONSIDERATION OF RADIATION DOSE RATE EFFECTS AND SYNERGISTIC EFFECTS. THESE REQUIREMENTS FLOW DIRECTLY FROM NRC-SPONSORED RESEARCH ON QUALIFICATION TESTING PROCEDURES.

o NRC RESEARCH ON IN-SERVICE INSPECTION (ISI) HAS RESULTED IN MORE STRINGENT INSPECTION REQUIREMENTS THROUGH MODIFICATION OF THE ASME BOILER AND PRESSURE VESSEL CODE.

o STEAM GENERATOR RESEARCH THAT WILL BE COMPLETED IN LATE 1986 IS EXPECTED TO PROVIDE THE BASIS FOR MORE STRINGENT INSPECTION AND TUBE PLUGGING CRITERIA WHICH WILL BE IMPLEMENTED IN REVISIONS TO REGULATORY GUIDES 1.83 AND 1.121.

- APPENDIX R TO 10 CFR 50 SPECIFIED FIRE PROTECTION REQUIREMENTS FOR EXISTING LWR PLANTS THAT, IN SOME CASES, WENT BEYOND THEN CURRENT PRACTICE INCLUDING REQUIREMENTS FOR SEPARATION OF CABLES AND EQUIPMENT OF REDUNDANT TRAINS BY HORIZONTAL DISTANCE OF MORE THAN 20 FT. ADDITIONAL CABLE FIRE SCREENING CRITERIA WERE IMPOSED BY REG. GUIDE 1.131 ON QUALIFICATION TESTS OF ELECTRIC CABLES FOR LWR REACTORS.

- PIPING RESEARCH PROGRAMS HAVE RESULTED IN MORE STRINGENT REQUIREMENTS FOR ACCEPTANCE OF FLAWS IN STAINLESS STEEL PIPES. THIS HAS BEEN IMPLEMENTED BY INCLUSION IN THE ASME CODE (SECTION XI, IWB-3640) AND WILL BE INCORPORATED BY ENDORSEMENT IN 10 CFR 50.55(A).

- REG. GUIDE 1.97 DEALING WITH INSTRUMENTATION NEEDED DURING AND FOLLOWING AN ACCIDENT IDENTIFIED THE NEED FOR SUCH INSTRUMENTATION TO BE QUALIFIED FOR CONDITIONS THAT MIGHT BE ENCOUNTERED IN SEVERE ACCIDENTS.

- RES RESEARCH DEVELOPED A SPECIAL COMPUTER CODE (FRANTIC) FOR THE EVALUATION OF PLANT TECHNICAL SPECIFICATIONS. THIS CODE IS USED ROUTINELY BY BOTH INDUSTRY AND THE NRC LICENSING STAFF IN DEALING WITH MODIFICATIONS TO PLANT TECHNICAL SPECIFICATIONS, WITHOUT THE ISSUANCE OF FORMAL REGULATORY GUIDES.

- RES-SPONSORED PRA STUDIES HAVE IDENTIFIED A NUMBER OF IMPORTANT VULNERABILITIES IN CERTAIN OPERATING REACTORS. FOR EXAMPLE, THE ADDITION OF AN AUXILIARY FEEDWATER TRAIN TO THE CALVERT CLIFFS PLANT AND MODIFICATIONS TO LOAD-SHEDDING SWITCHES AT MILLSTONE (A SINGLE-FAILURE EVENT WHICH COULD HAVE DISABLED THE EMERGENCY CORE COOLING SYSTEM AT THAT PLANT).

- In almost every PRA sponsored by RES, there has been some follow-up modification made by the affected utility, generally on its own initiative, either to the engineered plant safety systems or to plant operating procedures in order to provide more reliable safety system.

- Through an NRC-funded effort, an accreditation program was established at NBS for personnel dosimetry processors. Research revealed widespread poor performance and led to the development of a proven performance standard. Through this program, processor performance has dramatically improved; the test failure rate was reduced from 52 percent to 7 percent.

- NRC research funds were used to determine regulatory constraints which are applied in the design, testing and use of respiratory protection equipment for airborne radioiodines.

QUESTION 25: What experimental facilities are available for the Office of Research to use in the event of incidents and accidents to nuclear power plants; specifically thermal-hydraulic and severe core damage accidents?

ANSWER

THERMAL HYDRAULICS

By the end of 1986 nearly all U.S. facilities will be shutdown with only one, the Babcock and Wilcox facility, being available in 1987. The NRC has needed and used integral experimental facilities to investigate thermal-hydraulic accident phenomena since the early 1970's starting with an early version of the Semiscale facility, located at the Idaho National Engineering Laboratory (INEL). The NRC has had the ability to perform integral experiments in facilities representative of each major type of light

WATER REACTOR IN THE UNITED STATES, I. E., WESTINGHOUSE AND COMBUSTION ENGINEERING PRESSURIZED WATER REACTORS (LOFT, SEMISCALE), BABCOCK AND WILCOX PRESSURIZED WATER REACTORS (MIST FACILITY), AND GENERAL ELECTRIC BOILING WATER REACTORS (FIST FACILITY).

IN ORDER TO STRENGTHEN THE REMAINING PROGRAM, WE HAVE HAD TO NEGOTIATE ACCESS TO FOREIGN NUCLEAR POWER PROGRAMS TO OBTAIN THE RESULTS FROM THEIR THERMAL-HYDRAULIC FACILITIES AND ANALYSES. THESE INCLUDE THE FEDERAL REPUBLIC OF GERMANY, JAPAN, ITALY, AND THE UNITED KINGDOM. THE RESULTANT INFORMATION PARTIALLY COMPENSATES FOR THE LOSS OF DOMESTIC CAPABILITY. THE NEGATIVE SIDE OF THIS DEPENDENCY ON FOREIGN PROGRAMS IS THAT THESE FACILITIES MAY NOT BE AVAILABLE TO EXPERIMENTALLY VERIFY AN NRC REGULATORY RESPONSE TO FUTURE INCIDENTS. THE CAPABILITY WHICH CAN NOT BE COMPENSATED FOR IS THE LOSS OF THE TECHNOLOGY BASE ON WHICH THE FACILITY DEPENDS SUCH AS THE EXISTING STAFF EXPERTISE AND EXPERIENCE. THIS LOSS WILL BE IMPOSSIBLE TO RECOVER IN ANY REASONABLE AMOUNT OF TIME ONCE ELIMINATED.

AS A RESULT, THE NRC OFFICE OF NUCLEAR REGULATORY RESEARCH IS DEVELOPING PROPOSALS TO ESTABLISH A PROGRAM OF RESEARCH PROGRAM INTEGRATION TO MAINTAIN THE CAPABILITY TO PROVIDE EXPERIMENTAL DATA ON A TIMELY BASIS TO RESPOND TO NRC NEEDS. THE PLAN IS TO CONSTRUCT UP-TO-DATE FACILITIES AT A SINGLE SITE, THE IDAHO NATIONAL ENGINEERING LABORATORY, WHICH CURRENTLY HAS THE MOST COMPETENT AND LARGEST CONCENTRATION OF STAFF EXPERTISE IN PERFORMING AND ANALYZING THERMAL-HYDRAULIC PHENOMENA. ALSO, BECAUSE OF CURRENT AND PAST PROGRAMS, INEL HAS AVAILABLE THE NECESSARY ELECTRIC POWER, SPECIALIZED INSTRUMENTS AND OTHER NECESSARY SUPPORT CAPABILITY.

INITIAL STUDIES WERE PERFORMED DURING FY 1985-86 TO ASSESS THE TECHNICAL MERITS AND COSTS OF ALTERNATIVE FACILITY DESIGNS AND PERFORM INITIAL DESIGN STUDIES. THE CONCLUSION WAS TO CONSTRUCT AN INTEGRAL FACILITY USING SCALING CRITERIA MORE CAPABLE OF SIMULATING THREE DIMENSIONAL EFFECTS THAN PREVIOUS DOMESTIC OR FOREIGN FACILITIES (WHICH ARE ESSENTIALLY CAPABLE OF ONLY ONE

DIMENSIONAL SIMULATIONS), AND TO PROVIDE A SEPARATE EFFECTS EXPERIMENTAL CAPABILITY TO STUDY PARTICULAR PHENOMENA IN DETAIL WHERE THE CURRENT UNDERSTANDING IS INADEQUATE. THE INITIAL INTEGRAL FACILITY WOULD BE MODELED AFTER BABCOCK AND WILCOX PLANTS BECAUSE OF A NUMBER OF SIGNIFICANT OPERATIONAL TRANSIENTS THAT HAVE OCCURRED AT THESE PLANTS. SEPARATE EFFECTS WORK WOULD INCLUDE A FACILITY TO STUDY THE THERMAL-HYDRAULICS OF THE BABCOCK AND WILCOX STEAM GENERATOR DESIGN.

THE NRC COMMISSIONED SCALING STUDY FOR FOLLOW-ON FACILITY DESIGNS WILL BE COMPLETED IN FY 1986. UPON COMPLETION, THE NRC REGULATORY AND RESEARCH STAFFS WILL EVALUATE THE SCALING STUDY RESULTS AND NRC DATA NEEDS, AND DETERMINE THE BEST WAY TO MEET THESE NEEDS. FUNDING REQUIREMENTS WILL BE DETERMINED AT THAT TIME. $2.5 MILLION IS INCLUDED IN THE REQUESTED FY 1987 BUDGET FOR CONTINUED THERMAL-HYDRAULIC TESTING. THE NRC WILL HAVE TO DECIDE IF THIS SHOULD BEST BE SPENT ON A REDUCED AMOUNT OF SAFETY TESTS OF TRANSIENTS EXPERIENCED IN BABCOCK AND WILCOX REACTORS IN THE MIST FACILITY, OR IF IT SHOULD BE SPENT ON STARTING THE DESIGN OF A NEW FACILITY BASED ON THE RESULTS OF THE SCALING STUDY.

SEVERE ACCIDENTS

MOST OF THE NRC'S SEVERE ACCIDENT EXPERIMENTAL RESEARCH IS NOW DONE IN FACILITIES LOCATED AT THE SANDIA NATIONAL LABORATORY NEAR ALBUQUERQUE, NM. THE FINAL SEVERE FUEL DAMAGE TEST WAS DONE IN THE POWER BURST FACILITY IN IDAHO IN MARCH, 1985, AND THE FACILITY IS IN STANDBY STATUS AT PRESENT AWAITING DEACTIVATION AND DEFUELING.

AT SANDIA, NRC HAS SEVERAL HYDROGEN TEST FACILITIES IN WHICH THE TESTING WILL BE COMPLETED DURING FY 1986. THERE ARE NO PLANS OR FUNDS AVAILABLE TO PRESERVE THESE FACILITIES. ALSO AT SANDIA, THERE ARE SEVERAL EXPENSIVE TEST FACILITIES USED IN VARIOUS EXPERIMENTS TO MEASURE THE LOADS WHICH MIGHT BE PLACED ON A REACTOR CONTAINMENT FROM MOLTEN FUEL. TESTING IN THESE FACILITIES

IS TO BE COMPLETED IN FY 1987. DUE TO A LACK OF FUNDS THERE ARE NO PLANS TO PRESERVE THESE FACILITIES. THE ONLY DOMESTIC IN-PILE SEVERE ACCIDENT TEST FACILITY WHICH NRC HAS AVAILABLE IS THE ANNULAR CORE RESEARCH REACTOR (ACRR). THIS FACILITY PERFORMS TESTS FOR DEFENSE PROGRAMS AND AVAILABILITY IS NOT DEPENDENT ON NRC RESEARCH FUNDING. WE HAVE ASSUMED THE FACILITY WILL REMAIN AVAILABLE BASED ON THE PLANNED DOE DEFENSE TESTS FOR SEVERAL YEARS. DOE ALSO HAS A FACILITY IN IDAHO, THE TREAT REACTOR, IN WHICH LIMITED FUEL DAMAGE TESTS CAN BE CONDUCTED.

SEVERE ACCIDENT PHENOMENA EXPERIMENTS ARE PERFORMED IN FACILITIES LOCATED AT THE OAK RIDGE NATIONAL LABORATORY (ORNL), IN THE LACE FACILITY NEAR RICHLAND, WA. AND FACILITIES UNDER COOPERATIVE PROGRAMS IN CANADA AND W. GERMANY. NO PROVISION FOR RETENTION OF THESE FACILITIES, BEYOND FY 1987, HAVE BEEN MADE. THEREFORE, THE ONLY SEVERE ACCIDENT EXPERIMENTAL FACILITIES AVAILABLE TO THE U.S. TO RESPOND TO ANY INCIDENTS OR ACCIDENTS IN NUCLEAR POWER PLANTS WHICH WOULD REQUIRE EXPERIMENTAL DATA FOR RESOLUTION WOULD POSSIBLY BE THE ACRR AND TREAT REACTORS.

QUESTION 26: HAS THE NRC OFFICE OF RESEARCH DEVELOPED PLANS BY WHICH THIS COUNTRY'S RESEARCH CAPABILITIES IN RESEARCH FACILITIES WOULD BE STRENGTHENED?

A. IF THE ANSWER IS YES, PLEASE DESCRIBE PLANS AND GIVE STATUS AND FUNDING REQUIRED.

B. IF THE ANSWER IS NO, PLEASE EXPLAIN.

ANSWER

SEE RESPONSE TO QUESTION 25.

QUESTION 27: IN THE PAST, THIS COMMITTEE HAS BEEN SUPPORTIVE OF THE NRC CONCEPT OF TECHNICAL INTEGRATION CENTERS. PLEASE DESCRIBE THE DEVELOPMENT AND STATUS OF THIS PROGRAM TO DATE, AND FUTURE PLANS IN THIS AREA.

ANSWER

NRC HAS BEGUN IMPLEMENTATION OF TECHNICAL INTEGRATION IN FOUR PILOT AREAS, THERMAL-HYDRAULICS, PLANT AGING, DECOMMISSIONING AND PLANT MAINTENANCE. THIS IS TO ASSURE INTEGRATION OF THESE DISCIPLINES THROUGHOUT THE NRC OFFICES AND REGIONS INVOLVED IN THE PARTICULAR DISCIPLINES. OF THE FOUR AREAS THERMAL-HYDRAULICS IS THE FIRST TO ESTABLISH A TECHNICAL INTEGRATION CENTER. THAT CENTER WILL BE AT THE IDAHO NATIONAL ENGINEERING LABORATORY (INEL) WHICH HAS BEEN DESIGNATED AS THE NRC TECHNICAL INTEGRATION CENTER FOR THERMAL-HYDRAULICS AS OF FEBRUARY, 1986. THIS TECHNICAL INTEGRATION CENTER WILL BE PROVIDING INTEGRATION OF THERMAL-HYDRAULICS AT INEL AND ALSO FOR NRC THERMAL-HYDRAULIC SAFETY ANALYSIS WORK AT OTHER DOE LABS AND PRIVATE INSTITUTIONS. IN ADDITION PROJECTS ARE UNDERWAY UNDER THE AUSPICES OF THE TECHNICAL INTEGRATION CENTER IN SUPPORT OF NRC REGULATORY NEEDS TO TEST THE CONCEPT OF EXPANDING THE LIMITED THERMAL-HYDRAULIC AREA TO ONE OF OPERATIONAL SAFETY. A SIGNIFICANT PORTION OF THE NRC THERMAL-HYDRAULIC WORK WILL BE CONSOLIDATED AT INEL TO TAKE ADVANTAGE OF THE NATIONS LARGEST REMAINING STAFF OF THERMAL-HYDRAULIC EXPERTS AND TEST CAPABILITIES. THE ANSWER TO QUESTIONS 25 AND 26 DISCUSS NRC'S PLANS TO ESTABLISH CONTINUING EXPERIMENTAL CAPABILITY AT THE IDAHO NATIONAL ENGINEERING LABORATORY. THIS CAPABILITY, IF ACHIEVED, WILL FURTHER ENHANCE THE ABILITY OF THE TECHNICAL INTEGRATION CENTER. WHILE CERTAIN WORK WILL CONTINUE TO BE PERFORMED AT OTHER ORGANIZATIONS WHERE SPECIALIZED EXPERTISE EXISTS SUCH AS UNIVERSITY PROGRAMS, INEL WILL MAINTAIN COGNIZANCE AND ASSURE ITS INTEGRATION.

QUESTION 28: THE RESEARCH PROGRAM AT NRC SHOULD BE A BALANCED PROGRAM BETWEEN SUPPORTIVE RESEARCH FOR REGULATORY NEEDS, RESEARCH TO REENFORCE OR REVISE THE CURRENT REGULATORY BASES AND CONCEPTUAL RESEARCH FOR IMPROVED REACTOR SAFETY. WHAT STEPS HAS THE NRC TAKEN TO INTEGRATE THE RESULTS OF NRC RESEARCH INTO THE COMMISSION'S REGULATIONS AND CHANGE REGULATIONS WHEN RESEARCH SHOWS THEM TO BE EITHER TOO STRINGENT OR NOT STRINGENT ENOUGH?

ANSWER

SEE RESPONSE TO QUESTION 24.

QUESTION 29: WHAT EFFORT HAS BEEN MADE BY THE COMMISSION, OR IS UNDERWAY, TO ENLIST INDUSTRY SUPPORT FOR NRC RESEARCH?

ANSWER

THE NUCLEAR INDUSTRY'S RESEARCH EFFORTS CONTRIBUTE SUBSTANTIALLY TO THE WHOLE FIELD OF NUCLEAR SAFETY RESEARCH AND INCLUDE CONSIDERABLE EFFORT IN AREAS PERTINENT TO THOSE OF CONCERN TO THE NRC.

HOWEVER, MUCH OF THE NRC RESEARCH IS UNIQUE TO THE NEEDS OF THE NRC TO PERFORM ITS MISSION AND IS DESIGNED TO ADDRESS POTENTIAL AREAS OF SAFETY CONCERN. THE NRC COULD NOT RELY SOLELY ON INDUSTRY-GENERATED RESULTS TO SUPPORT THE DEVELOPMENT OF LICENSING CRITERIA IN CONNECTION WITH LICENSING REVIEWS AND CONTINUING ACTIVITIES TO RESOLVE GENERIC ISSUES; TO PROVIDE AN AUDIT CAPABILITY FOR THE REVIEW OF MATERIAL SUBMITTED BY AN APPLICANT IN THE LICENSING REVIEW PROCESS; OR TO PROVIDE AN INDEPENDENT BASE FOR PHYSICAL DATA, ENGINEERING INFORMATION, AND COMPUTER CODES TO UNDERSTAND PHENOMENA AND SUBSTANTIATE THE TECHNICAL BASIS FOR LICENSING AND INSPECTION.

ON THE OTHER HAND, SOME OF THE WORK THE NRC DOES ON PHENOMENOLOGY CAN BE APPLIED BY INDUSTRY. IN RECOGNITION OF THIS VALUE TO INDUSTRY, THE NRC HAS DEVELOPED JOINT PROGRAMS IN A NUMBER OF RESEARCH AREAS. IN PARTICULAR, THE NRC HAS WORKED JOINTLY WITH EPRI, THE OWNER'S GROUPS, AND THE MANUFACTURERS IN THE AREA OF THERMAL HYDRAULICS, WHERE ADVANCES IN KNOWLEDGE THAT NRC NEEDS IN ORDER TO DEVELOP REGULATIONS TO IMPROVE SAFETY CAN ALSO LEAD TO IMPROVEMENTS THAT CAN REDUCE OPERATING COSTS FOR INDUSTRY.

THE NUCLEAR INDUSTRY SPENDS A CONSIDERABLE AMOUNT OF MONEY ON SAFETY RESEARCH, BOTH JOINTLY WITH NRC AND INDEPENDENTLY. IN THE YEARS 1983-1986, THE TOTAL COST OF EPRI FUNDED RESEARCH IS ESTIMATED AT $218 MILLION. IN ADDITION, THE REST OF THE PRIVATE SECTOR IS ESTIMATED TO SPEND APPROXIMATELY $40-$60 MILLION PER YEAR ON SAFETY RELATED RESEARCH.

THE FULL SCOPE OF THE EXTENSIVE INDUSTRY WORK IN THIS AREA IS SUMMARIZED IN THE ATTACHED APPENDIX A TO THE ENERGY RESEARCH ADVISORY BOARD (ERAB) REPORT ON "LIGHT-WATER REACTOR RESEARCH AND DEVELOPMENT REACTOR SAFETY R&D" DATED SEPTEMBER 1983. WHILE SOMEWHAT DATED, THE REPORT FINDINGS ARE STILL CONSIDERED VALID. THE REPORT SHOWS SAFETY RESEARCH EXPENDITURES BY NONGOVERNMENTAL ORGANIZATIONS TO BE SUBSTANTIAL.

COMMISSIONER ASSELSTINE ADDS THE FOLLOWING:
I AGREE THAT MANY OF OUR RESEARCH PROGRAMS ARE NEEDED AND WELL-JUSTIFIED, AND RESULT IN USEFUL IMPROVEMENTS IN SAFETY. MANY OF THE RESEARCH PROGRAMS LISTED IN THE COMMISSION'S RESPONSE ARE GOOD EXAMPLES OF NEEDED AND USEFUL RESEARCH. OFTEN THOSE EFFORTS LEAD TO THE IMPOSITION OF NEW REQUIREMENTS ON THE INDUSTRY AS WE LEARN MORE ABOUT THIS STILL-DEVELOPING TECHNOLOGY. NEVERTHELESS, I CONTINUE TO HAVE CONCERNS ABOUT THE PRIORITIES AND ALLOCATION OF FUNDING FOR SOME OF OUR RESEARCH ACTIVITIES. NRC CONDUCTS SUBSTANTIAL RESEARCH WORK IN AREAS WHERE PRESENTLY AVAILABLE INFORMATION MAY BE SUFFICIENT TO ESTABLISH THAT OUR EXISTING REGULATIONS ARE CONSERVATIVE. EXAMPLES INCLUDE EMERGENCY CORE COOLING RESEARCH AND SOURCE TERM

WORK. WHILE FURTHER RESEARCH MAY IMPROVE AND REFINE OUR UNDERSTANDING OF THESE AREAS, AND MAY PERMIT A RELAXATION OF EXISTING REGULATIONS, I BELIEVE THAT SUCH RESEARCH ACTIVITIES SHOULD BE ACCORDED A LOWER PRIORITY THAN RESEARCH IN AREAS WHERE THERE ARE SUBSTANTIAL UNCERTAINTIES CONCERNING THE ADEQUACY OF EXISTING REQUIREMENTS. I AM NOT YET CONVINCED THAT THIS CONSIDERATION PLAYS A MAJOR ROLE IN SETTING OUR RESEARCH PRIORITIES.

IF WE ARE GOING TO DO FURTHER RESEARCH WORK IN AREAS WHERE OUR REGULATIONS HAVE ALREADY BEEN SHOWN TO BE CONSERVATIVE, WE SHOULD RECOGNIZE THE BENEFITS TO THE INDUSTRY THAT WILL COME FROM OUR ABILITY TO RELAX SAFETY STANDARDS, AND WE SHOULD REQUIRE GREATER INDUSTRY FUNDING FOR THIS RESEARCH. GREATER INDUSTRY FUNDING FOR THESE ACTIVITIES CAN BE OBTAINED IN A VARIETY OF WAYS, INCLUDING: REQUIRING THAT INDUSTRY, RATHER THAN NRC, CONDUCT THE RESEARCH; EXPANDING JOINT NRC-INDUSTRY RESEARCH EFFORTS; AND IMPOSING USER FEES ON THE INDUSTRY TO COVER THE COST OF THESE RESEARCH EFFORTS WHERE THERE IS AN IDENTIFIABLE BENEFIT TO THE INDUSTRY. I ALSO BELIEVE THAT WE SHOULD SEEK GREATER INDUSTRY FUNDING FOR OUR RESEARCH EFFORTS THAT ARE REQUIRED BECAUSE THE PLANTS HAVE NOT MET THE PERFORMANCE EXPECTATIONS AND TECHNICAL BASIS REQUIRED FOR LICENSING. EXAMPLES HERE INCLUDE RESEARCH TO DETERMINE THE ADEQUACY OF CONTINUED PLANT OPERATION WITH DEGRADED CONDITIONS SUCH AS BWR PIPE CRACKS, REACTOR VESSEL EMBRITTLEMENT, AND PWR STEAM GENERATOR WEAKNESSES.

Attachment
Hatfield 29, 30

APPENDIX A

SUMMARY OF CURRENT AND PLANNED PROGRAMS IN LWR SAFETY

The several sections of Appendix A are intended to provide the reader a brief identification of the principal areas of research and development (R&D) conducted by the Nuclear Regulatory Commission (NRC), the Department of Energy (DOE), the private sector, and foreign countries. For a more complete and explicit description of the programs in place, the reader is referred to referenced program plans or to documentation of material presented to the Board by several organizations engaged in light-water reactor (LWR) safety.[1]

A.1 *Summary of NRC Programs*

The NRC conducts R&D in all areas of technology identified by the Board. An approximate breakdown of budgets for fiscal years 1982-1984 is given in Table A.1. A reconciliation of the Board's technical areas with NRC's "Decision Units" is shown in Table A.2.

The NRC has recently initiated the annual preparation of a five-year research plan. The FY 1984-FY 1988 *Long-Range Research Plan*[2] gives the following policy statement:

> The purpose of the research program is to provide the technical basis for rulemaking and regulatory decisions, to support licensing and inspection activities, to assess the feasibility and effectiveness of safety improvements, and to increase our understanding of phenomena for which analytical methods are needed in regulatory activities. There should be increased emphasis on using research results in the regulatory process and on getting research results that are useful. Staff should not engage in research merely to postpone tackling difficult regulatory issues.

Table A.1. Approximate breakdown of NRC research budgets
($ millions)

Research area	FY 1982	FY 1983	FY 1984 (Proposed)
Severe accident analysis	37.9	51.5	50.0
Hydrogen release, effects, and control			
Human factors	7.2	6.2	5.4
Instrumentation and control	3.0	4.0	6.6
Materials issues	21.7	23.4	23.3
Nondestructive testing			
Plant aging			
Seismology, soil mechanics, and structures	14.8	13.3	13.2
Health effects of radiation	1.9	2.0	2.1
R&D codes, thermal-hydraulics research	72.1[a]	47.7[a]	37.7
R&D codes, thermal-hydraulics research	72.1[a]	47.7[a]	37.7
Safety analysis methodology	13.6	14.4	10.2
Environmental qualification	4.0	2.5	5.4
Subtotal	$178.4	$167.2	$156.4

[a] Includes LOFT.

The NRC research programs in the respective areas are described in Ref. 2 and are summarized below. Some of the NRC programs are in collaboration with industry (see Sect. A.3) or foreign governments (see Sect. A.4).

A.1.1 *Severe accident analysis*

The program is in support of regulatory treatment of these severe accident potentials.

a. *Evaluation of the likelihood of the accident*. Included here are accident scenarios and probabilistics; common-mode failures and operator response are emphasized.
b. *Severe accident sequence analysis (SASA)*. This covers the assessment of accidents within and beyond the design basis for accident prevention, management, and mitigation.
c. *Accident management*. This integrates strategies combining systems design and operation with operator guidelines and procedures for prevention, arrest, or mitigation.
d. *Damaged fuel behavior*. This covers general damaged fuel behavior between 500 and 5000°F, fission-product and hydrogen release, and coolability limits.
e. *Hydrogen generation and control*. This quantifies containment loads due to burning of hydrogen and effects on safety-related equipment. It will be based on hydrogen transport, mixing, and combustion.
f. *Fuel-structure interaction*. This concentrates on consequences of high-temperature thermal and chemical core fuel debris interaction with structures under the reactor vessel. It includes work on mitigating structures or devices.
g. *Containment analysis*. This research assesses containment challenges due to postulated accident overpressure, fission products, aerosol release, hydrogen burns, and reactor vessel cavity fuel-structure interactions.
h. *Fission-product release and transport*. This supports the radiological source term. It consists of radionuclide release from fuel, transport, and attenuation.
i. *Containment failure mode*. Failure modes considered are (1) faulty valve operation, (2) material failure of electrical penetrations, and (3) mechanical containment failure. Loads outside design basis are covered.
j. *Fission-product control*. The effectiveness of the "Engineered Safety Features" (ESF) is evaluated under potential severe accident assumptions, to reassess regulatory assumptions, and for decisions on the response of ESF under severe conditions.
k. *Risk code development*. This supports physical processes of the severe accident for Probabilistic Risk Analysis (PRA). It covers many sequences from initiation to environmental effects.

Table A.2.
Crosscut ERAB technical areas vs NRC budget decision units
(FY 1983 budget in $ millions)

	NRC decision unit								
Technical area	Reactor facility engineering	Facility operations	Thermal-hydraulic transients	Siting and health	Risk analysis	Accident evaluation	LOCA	LOFT	Other
Severe accident analysis, Hydrogen control	3.8					47.7			
Human factors		6.2							
Instrumentation and control		3.9	0.1						
Materials/aging/nondestructive testing	21.4		2.0						
Seismology, soil mechanics, and structures	7.1			6.2					
Health effects of radiation				2.0					
Personnel dose reduction		2.2							
R&D codes, thermal-hydraulic research			19.9			12.8	15.0		
Safety analysis methodology					12.9				2.5
Environmental qualification	2.5								
None of the above	2.4				2.2				

l. *Accident consequences and risk reevaluation*. This covers assessments of consequences and risk. It will be used for baseline level of risk (1983-1987). (Also see "Safety Analysis Methodology.")

m. *Risk reduction and cost analysis*. This program develops methods and performs analyses for systematic cost/benefit evaluations of alternative concepts for design and operation.

Severe accident work extends into 1988 (the last year covered in NRC's Long Range Plan) with annual funding tapering from $54 million (1984) to $30 million in 1988 (*Ref.* 2). NRC has a program plan for incorporating the results of research into regulatory decisions.[3] This plan makes provision for incorporating the results of private sector research [Industrial Degraded Core Rulemaking (IDCOR), and the Electric Power Research Institute (EPRI) as covered in Sect. A.3.1] into rule making.

A.1.2 *Hydrogen control*

See Sect. A.1.1, item e.

A.1.3 *Human factors*

This effort provides technical support in the application of human factors to nuclear facilities and emergency preparedness. It covers control room, personnel qualifications, staffing, procedures, human reliability, and emergency preparedness. It includes

a. *Human factors engineering*. Man-machine relationship at information and control stations and human factors standards and guidelines.

b. *Licensee personnel qualifications*. Technical basis for criteria to evaluate personnel qualifications and to reduce operator-related risk.

c. *Plant procedures*. Technical basis for criteria/methods used in assessment and upgrading of operating procedures.

d. *Human reliability*. Analysis of errors and effect on failures.

e. *Emergency preparedness*. Technical basis and standards to improve federal, state, and local government and licensees' mitigation of accident consequences. Work extends into 1988 at an annual $5 to 8 million level (1983 1988) (*Ref.* 2).

NRC also performs some research on physical plant protection under the "safeguards" budget category.

A.1.4 *Instrumentation and control*

The objective is to improve and confirm methods of reactor and process systems protection, control, and instrumentation capability. Included are the following:

a. *Safety implication of control systems*. This includes malfunctions and effects on safety. Also covered are automatic analog and digital computer-based control/protection and information systems.

b. *Component assessment*. It evaluates (1) mechanisms that cause malfunctions, and (2) design, manufacture, installation, test, and maintenance practices, concentrating on degradation mechanisms to assist in selection of proper test configuration and acceptance criteria.

c. *Diagnostic equipment and capability*. It covers (1) capability for early detection/diagnosis of anomalies, (2) a technical basis for regulatory decisions on adequacy of diagnostic instrumentation, and (3) information on diagnostic instrumentation to be provided to operators.

d. *New control and instrumentation (C&I) technology*. It provides a technical basis for the latest technology developed in other fields to be used for improved systems. It also reviews regulations to determine necessary changes to allow alternate approaches and develops methods to allow evaluation of value and impact of regulatory proposals for review plans.

The entire program extends to 1988, with annual funding of $6 to 7 million.[3]

A.1.5 *Materials issues/plant aging*

The NRC programs include the "Plant Aging" and "Pressurized Thermal Shock" categories. Included are the following:

a. *Reactor pressure vessels*. This covers structural pressure vessel integrity, particularly irradiation embrittlement and crack growth.

b. *Steam generators*. This includes corrosion, cracking, and tube degradation. A major thrust is evaluation of nondestructive examination techniques.

c. *Piping*. This covers structural integrity degraded by coolant, stress, and temperature environment (stress corrosion cracking, fatigue, crack growth, and loss of structural toughness).

d. *Electrical and mechanical components*. Included here is time-related degradation during service and its potential impact on safety, also prevention and mitigation of equipment degradation.

e. *Nondestructive examination*. Validation of reliable nondestructive examination techniques for crack and flaw detection and characterization is included. It applies mainly to vessels, piping, and steam generators.

f. *Pressurized thermal shock*. Overcooling transients on certain older pressure vessels are of great concern, particularly after they have suffered irradiation embrittlement. Research concentrates on a better understanding of the phenomena, operating procedures, training, and other mitigating actions.

These programs extend through 1988, with annual funding ranging from $23 to 25 million in 1984-1986, then decreasing to $15 to 16 million in 1987 and 1988 (Ref. 2). NRC has a program plan for factoring research on pressurized thermal shock into regulations.[4]

Another NRC materials-related program is listed as "Pipe Rupture Investigations." It evaluates the design criteria, postulated break locations, and work related to pipe-whip restraints. It deals primarily with proof of leak before break in piping.

A.1.6 *Nondestructive testing*

See "Materials issues" item e.

A.1.7 *Seismology, soil mechanics, and structures*

Much of the "External Events" program is concerned with earthquakes. Uncertainties of seismic hazards are studied, including propagation characteristics, site-specific attenuation, recurrence intervals, and probabilistic distributions. It concentrates on resolving the recent concern on seismic source zones in the eastern United States. Work extends into 1988. Total external events annual funding is $12 to 13 million.[2]

Another effort is listed under "Safeguards" programs and consists of definitions of response and resistance of structures and equipment to beyond design-basis seismic events. It consists of

a. simplified risk methodology,
b. alternate peak ground accelerations,
c. floor response spectra changes,
d. validating of soil-structure interaction and structural response,
e. validating of codes for buckling analyses of steel containments,
f. damping values for piping analyses,
g. risk comparison—stiff vs flexible piping,
h. load combinations and benchmarking of codes,
i. dam and embankment failure risk, and
j. design/construction error risk assessment.

A.1.8 *Health effects of radiation*

NRC relies primarily on the research of other Federal agencies in this area (see Sect. A.2.8). The NRC program concentrates on radiation sources, relationship between exposure and health effects, and acceptable limits for workers and the general public. It covers

a. metabolism and internal dosimetry,
b. health effects and risk estimation, and
c. radionuclide pathways for radiation exposure of man.

Work on "Radiation Protection and Health Effects" extends into 1988 with annual funding of $4 to 5 million in 1984-85, increasing to $7 to 9 million annually.[2] (These estimates include programs in personnel dose reduction.)

A.1.9 *Personnel dose reduction*

This program is part of "Radiation Protection and Health Effects." The element of that program covering plant personnel is entitled "Occupational Radiation Protection" and is funded at $2.5 million in FY 1984.

A.1.10 *R&D codes, thermal-hydraulic research*

This area consists of experimental data and methods to predict and understand coolant systems during plant transients. Primary emphasis is on the loss-of-coolant accident (LOCA). Specific elements are listed below:

a. Separate effects, specifically two-phase (steam/liquid) heat transfer, mixing and flow characteristic phenomena, water hammer, critical heat flux, and flow instabilities.
b. Experimental simulation of integral thermal-hydraulic systems [pressurized-water reactor (PWR) and boiling-water reactor (BWR)].
c. Emergency core cooling effects during refill and reflood following a large-break LOCA in a PWR. Small-break LOCAs are also included.
d. Application of computer codes to analysis of transients in full-size LWRs and benchmarking against experimental data.
e. Improvement and maintenance of computer codes and development of automated plant analyzer.

Work extends into 1988. Annual funding peaks in 1984-85 at $31 to 38 million, then decreases gradually to $21 million.[2]

This area of research involves close interaction between industry and NRC for the validation and intercomparison of computer codes. There are also several jointly funded experimental programs, including

a. *FLECHT/SEASET Program.* This is a Westinghouse facility used for core transient single-phase and two-phase tests.
b. *MB-2 Program.* This covers steam generator behavior in small-break and other transients (Westinghouse).
c. *Core boil-off and blowdown heat transfer tests* (Westinghouse).
d. *BWR Refill/Reflood Program.* This covers experiments and code development for core behavior during hypothetical LOCA [General Electric Company (GE)].
e. *Full Integral Simulation Test (FIST).* This covers BWR core and system response during the blowdown and emergency cooling phases of a hypothetical LOCA (GE).

A.1.11 *Safety analysis methodology*

Most of the related NRC research is covered under "Risk Analysis." This includes development of models, methods, and procedures. Specifically covered are developments for

a. quantification of probabilities and consequences of severe accidents;
b. systematic evaluation of cost effectiveness of requirements, alternatives for design, and operation and backfit decisions; and
c. maintaining an accepted level of risk over the lifetime of specific plants.

Related work includes meteorology and hydrology. The former covers severe and extreme meteorological events and is nearing completion. Hydrology involves methodology for estimating margins on flood probabilities and failure of flood protection.

Other NRC programs that contribute to the data base for this technical area are the compilation and analysis of Licensee Event Reports (LERs) from operating plants [supported by the Office for Analysis and Evaluation of Operational Data (AEOD)] and the In-Plant Reliability Data System (IPRDS), an analysis of equipment performance. These programs are coordinated with counterpart programs at the Institute for Nuclear Power Operation (INPO).

NRC is also working on the application of PRA to regulatory decision making. PRA is used as a tool in establishing priorities in research or plant operation. PRA is involved, too, in NRC's attempt to implement the use of safety goals.

Work on risk analysis extends into 1988 with annual funding of $8 to 18 million, tapering to $10 million in 1988; however, we found no milestones beyond 1987 (Ref. 2).

A.1.12 *Environmental qualification*

The NRC program is entitled "Equipment Qualification." It develops methods for qualifying equipment for licensing decisions. Environmental and dynamic qualifications of electrical and mechanical equipment are covered. Included are the following:

a. Electrical equipment qualification methods that deal with safety-related equipment during and following design-basis accidents as well as limited "severe accident" conditions.
b. Active mechanical equipment functional qualification in temperature, pressure, humidity, radiation, chemical, and submergence environment.
c. Technical basis for qualification requirements of dynamic loads (seismic, vibration, flow) for electrical and active mechanical equipment. Load combinations with environmental loads are included. Work extends into 1988 at an annual $4 to 6 million level.[3]

A.2 *Summary of DOE Programs*

The DOE conducts R&D in selected technical areas relating to LWR safety. An approximate breakdown of budgets for fiscal years 1982-1984 is given in Table A.3.

The Board noted that the President's budget request for FY 1984 included a request for Loss-of-Fluids Test (LOFT) and one for the TMI program, but no other funding for continuation of the LWR safety R&D program.

Public Law 96-567 passed in January 1981 provides for "an accelerated and coordinated program of light-water nuclear reactor safety research, development and demonstration to be carried out by the Department of Energy." The Act spells out a number of technical areas for DOE activity and calls for the preparation annually of a comprehensive program management plan. The first management plan was issued in the spring of 1983 (Ref. 5).

The DOE is not funded to carry out the broad R&D efforts specified in PL 96-567; however, it is preparing an annual management plan. The DOE convened working groups, consisting of nuclear industry, national laboratory, university, and NRC personnel, to formulate a program plan for each of the following specific technical areas:

- Personnel and Training
- Information and Control Technology
- Probabilistic Risk Assessment
- Dose Reduction
- Source Term and Containment
- Simulation

DOE completed an annual plan earlier in 1983 and is currently working on the 1984 plan. DOE's Management Plan recommends LWR safety R&D to be carried out by the national program; it does not propose work specifically to be performed by DOE.[3]

Brief summaries of DOE programs follow in each of the technical areas defined by the Board. Data on these programs were provided by DOE staff.

A.2.1 *Severe accident analysis*

A program on fission-product chemistry is under way at a national laboratory. The program is intended to improve source-term prediction. It is funded at $0.5 million in FY 1983; it is planned to continue the program in the future to a total of about $2 million subject to the availability of funds.

Table A.3.
Approximate breakdown of DOE
R&D budget related to LWR safety
($ millions)

Budget area	FY 1982	FY 1983	FY 1984 (Proposed)
LWR safety programs			
General safety R&D	10	5	0
TMI examination	24	29	37
LOFT	0	0	15
Subtotal	34	34	52
Health effects of radiation	59	33	53*
TOTAL	93	67	105

*Estimated same as FY 1983.

DOE's TMI program (Table A.4) consists of the following:

a. *Data acquisition*. Data are to be obtained pertaining to the details of the TMI accident, including fuel failure mechanisms, fission-product release from failed fuel, fission-product transport, hydrogen release and burn, and cooling of a damaged core. This program will contribute directly to severe accident research (through 1988).
b. *Core examination*. DOE plans to acquire the damaged core for analysis and evaluation. Examinations will be made both onsite and offsite and will include intact fuel assemblies, damaged fuel, and structure (through 1988).
c. *Waste immobilization program*. This involves the characterization, processing, shipment, immobilization, and ultimate disposal of abnormal radioactive wastes generated at TMI (e.g., loaded demineralizer resins).
d. *Reactor evaluation*. This includes development associated with the removal and disposition of the reactor core and internals.

The DOE is participating in the Organization for Economic Cooperation and Development (OECD) LOFT Project, which includes two experiments, scheduled for 1985, that address the severe accidents technical area. The purpose of these experiments is to provide a link between "separate effects" tests and commercial nuclear power plant severe accident phenomena. The tests will measure fission-product release rates from damaged fuel and fission-product transport and release to the containment. These two tests represent approximately one-third of the $91 million OECD LOFT Project and, therefore, are estimated at $30 million total budget. The current budget breakdown according to funding source is:

Foreign participants	41%
EPRI	3%
U.S. government	56%

The FY 1984 U.S. government contribution to the OECD LOFT Project will be $15 million, which is to be included in the budget of the DOE.

A.2.2 *Hydrogen control*

See the TMI program, Sect. A.2.1.

A.2.3 *Human factors*

This is a major emphasis both in DOE's management plan and in their actual program. Specific tasks under way include:

a. *Job and task analysis*. A program on job and task analysis is under way in cooperation with INPO. The objective of this program is to assist INPO in determining skills and knowledge required of reactor operating personnel. It is funded at $750,000 in FY 1983; the program is planned to continue in the future up to a total of about $3 million subject to the availability of funding. (Earlier funding in FY 1981 and 1982 was a total of $1.55 million.)
b. *Procedures development*. A program on procedures development is planned in cooperation with INPO. The objective of this program is to assist INPO to develop guidelines for procedures development, improvement, and validation. The guidelines would be used by the utility industry. The program is funded at $150,000 in FY 1983; additional funding will be provided in the future, if available, up to a total of $1 million.
c. *Information systems development*. Programs on the Calvert Cliffs Information System and the Plant Hatch Information System are under way in cooperation with the respective utility operators. The objective is to identify, develop, and evaluate plant information system improvements that could lead to improved plant safety, reliability, and economics based on a systematic, integrated definition of system functional requirements. The work is funded at $1.5 million in FY 1983; additional funding will be provided in the future, if available, up to a total of $5 million.

A.2.4 *Instrumentation and control*

The only related research is the information systems development referred to in Sect. A.2.3.

Table A.4.
DOE TMI R&D program projected funding allocation[a]
($ millions)

Area	Spent through FY 1982	FY 1983	Additional through completion	Total
Data acquisition	19.5	5.7	25	50
Core examination	0.9	3.3	19.5	24
Waste immobilization	8.4	6.1	5	19.5
Reactor evaluation	11.6	13.9	40	65.5
Total	40.4	29.0	89.5	159.0

[a] Source of data: DOE staff.

A.2.5 *Materials issues/plant aging*

DOE is not funding R&D within these categories.

A.2.6 *Nondestructive testing*

DOE is not funding R&D within this category.

A.2.7 *Seismology, soil mechanics, and structures*

DOE is not funding R&D within this category.

A.2.8 *Health effects of radiation*

The DOE radiation research program is the largest in this field and covers many areas in the biological sciences, ecology, and human health effects. The budget for FY 1982 was $59 million and that for FY 1983 $53 million, a breakdown being given in Table A.5. Many other Federal agencies, notably including the National Institutes of Health, also perform research in this area, as shown in Table A.5; total national fund ing in FY 1982 was $79 million, falling to $71.5 million in FY 1983.

Current DOE plans include additional efforts to better understand mechanisms underlying radiation effects and neutron radiobiology and a reduction in studies of whole-animal response to radiation.

A.2.9 *Personnel dose reduction*

The DOE TMI Program has resulted in the improvement of personnel dose monitoring methods that have been implemented at TMI-2.

A.2.10 *R&D codes, thermal-hydraulic research*

The OECD LOFT Project includes six experiments, scheduled for 1983 and 1984, that address this technical area. These tests include

- a PWR primary system feed and bleed heat removal test for the total, unrestored, loss-of-feedwater accident;
- PWR large and small, hot- and cold-leg breaks including sensitivity to power level and time of reactor coolant pump trip; and
- a PWR large cold-leg break with steam generator tube rupture.

The feed and bleed test, run February 20, 1983, demonstrated that method of heat removal for flows scaled to a commercial plant.

The LOCA tests supplement other LOCA tests performed by the NRC and assist regulatory agencies in the United States and abroad to define margins in current regulations. These six tests represent approximately two-thirds of the $91 million OECD LOFT Project and, therefore, are estimated at $61 million total budget.

A.2.11 *Safety analysis methodology*

A program on "An Integrated Decision Model" for the Sequoyah Nuclear Power Plant of the Tennessee Valley Authority is under way. The objective of this program is to develop a probabilistically based integrated decision model that will improve decisions by the utility on plant safety and resource allocation. The program is funded at $0.5 million in FY 1983; it is planned to continue the program in the future up to a total of $1.8 million if funding is available.

A program on the Nuclear Power Plant Reliability Data System (NPRDS) is under way in cooperation with INPO. The long-term objective is to establish NPRDS as an

Table A.5.

Funding for research on the health effects of radiation

(U.S. government in $ thousands[a]

DOE	FY 1982	FY 1983
Biological sciences		
Molecular and cell biology	$ 3.743	$ 3.018
Animal radiobiology	19.221	16.860
Epidemiology and health		
Genetic effects	1.908	1.703
Human epidemiology	7.209	6.602
Birth defects	1.950	1.950
Other somatic effects	8.186	8.261
Sources of radiation		
Environmental sources	12.962	11.592
Occupational exposures	732	342
Radionuclides in the human body	3.198	3.111
Subtotal DOE	59.111	53.439
National Institutes of Health	12.658	11.719
Nuclear Regulatory Commission	2.670	3.000
Department of Defense	1.230	1.405
Other federal agencies	3.185	1.955
Total	$78.854	$71.518

[a] Source of data: Interagency Radiation Research Committee, "Assessment of Radiation Research Strategy Implementation," Draft report, November 1982.

adequate data base to support decisions by utilities involving risk and availability. The program is funded at $0.1 million in FY 1983; it is planned to continue the program in the future up to a total of $1 million if funding is available.

A.2.12 *Environmental qualification*

The DOE TMI Program includes an evaluation of the survivability and performance of electrical components and instrumentation during and following the TMI-2 accident.

A.3 *Summary of LWR Safety R&D in the Private Sector*

The private sector of the nuclear community is made up of a number of different segments with different motivations and different priorities, both technical and economic. These groups include the utilities, suppliers of major equipment, architect/engineers, and suppliers of components.

The utilities are primarily motivated to ensure safety and the operability and maintainability of their plants. Utilities have set up a number of groups to assist them in this area. These are EPRI, the owners groups, and INPO. There are a number of smaller groups set up on an ad hoc basis to deal with specific problems such as equipment qualification, which have not taken on the form of the owners group. In addition to these groups, there is the IDCOR program operated by the Atomic Industrial Forum for a group including utilities, nuclear steam suppliers, and architect/engineers.

EPRI carries out a substantial and diversified R&D effort relating to LWR safety. It attempts to coordinate this work with NRC and others engaged in relevant programs. The other activities in EPRI's nuclear R&D program have the objectives of improving the reliability and availability of LWR plants, which of course also contributes to safety.

INPO is responsible for establishing standards for nuclear plant operations and training. It is thus concerned with the human factors and operational procedures areas. These, while not generally considered R&D, can have significant impact on the reliability of operating plants and, therefore, have an impact on safety.

Utilities support a substantial amount of LWR safety-related R&D directly, independent of EPRI and INPO. Some of this is carried out through owners groups in cooperation with the nuclear steam system supply (NSSS) vendors.

The NSSS vendors have substantial development programs addressing areas where the NRC has mandated changes to existing plants or to plants under construction, where operational problems exist (e.g., BWR pipe cracking or PWR steam generator integrity) or where new products may be marketed for improving operations (e.g., control and training equipment). Little is being done on new plant development except for cooperative programs with the Japanese under way at Westinghouse and GE.

Architect/engineers are doing relatively little in the areas that, strictly speaking, can be called R&D. Most are refining their codes, particularly as they affect dynamic analysis, looking to improve construction techniques, working in the reliability/maintainability area with a view to obtaining future work in this field. Some architect-engineers are working on specific issues under contract to EPRI or utilities.

The suppliers of smaller components are doing relatively little work in the safety R&D area. Product improvement for valves, pump seals, and instrumentation should rest with this group. However, in view of the fact that there would appear, in the near to intermediate term, to be relatively little market for their products, and because of the complexity of manufacturing for the nuclear community, there is little incentive for this segment to participate in a meaningful way in safety R&D.

The total budget for private-sector R&D is hard to quantify because individual companies do not generally report such data. The EPRI budget for work in the technical areas is given in Table A.6. EPRI's current levels of expenditure in LWR safety-related R&D are about $52 million/year. The rest of the private sector is estimated to spend about $40 to 60 million/year on LWR safety-related R&D. (This does not include substantial industry programs on improving general plant equipment such as steam generators.)

A.3.1 *Severe accident analysis*

EPRI sponsors a continuing analytical and experimental program in this area, including small-scale experiments on aerosol production and transport, larger-scale fuel-failure testing (Marviken, Treat, and LOFT) in an international framework, TMI-2 examination, containment response studies, and computer code development. The IDCOR is a balanced analytical program covering all aspects of severe accidents but focused on short-term results contributing to rulemaking.

A.3.2 *Hydrogen control*

The private sector has developed specific plant-related systems for hydrogen control in response to NRC requirements. EPRI's program is providing data on hydrogen generation during core damage events. EPRI is also conducting tests of hydrogen mixing, combustion, and control in vessels of various size to allow extrapolation to full scale. Computer models of these processes are also being developed. EPRI's work in this area involves cooperation with NRC programs.

A.3.3 *Human factors*

Following the accident at Three Mile Island, there has been a major expansion of work in the area of human factors.

Much of INPO's work fits into the general category of human factors. This includes (1) accreditation of training programs in the following areas: unlicensed operator training, licensed operator training, licensed operator requalification training, shift technical advisor training, instrument and control technician training, electrical maintenance personnel training, mechanical maintenance personnel training, chemical technician training, radiological protection technician training, and manager and technical staff training; (2) assistance to utilities in performance-based training systems development; and (3) a human performance reporting and analysis program. EPRI is developing (1) plans for communication procedures, (2) guidelines for operation in high-stress environments, (3) maintainability design guides, and (4) guidelines for use of cathode ray tube (CRT) displays.

The nuclear utilities are performing control room design reviews based on industry-developed guidance. Several manufacturers have developed advanced display systems for backfitting into existing plants. The reactor manufacturers, utilities, and consulting organizations have also developed extensive training facilities and significantly improved their training programs.

A.3.4 *Instrumentation and control*

Much work has been done recently in the instrument and control area in advanced control room design, in multiplexing, and in the human factors implication of control layouts.

Equipment qualification has one of the largest effects on instruments and controls, particularly the sensor devices. Some work is being done by the reactor manufacturers in this area, for example on the special remote sensor. The effects of environmental qualifications are described elsewhere in this report.

Work is being done in a number of universities on fault-tolerant systems, systems diagnostics, and state vector analysis.

A.3.5 *Materials issues/plant aging*

This is probably the largest area of R&D within the private sector. Owners groups have been put together for steam generators, and the BWR owners group is working in the area of intergranular stress corrosion cracking. These two programs are integrated with foreign work. EPRI supports work in these areas and also work on fuels, control materials, and structures. The NSSS vendors participate in these efforts and conduct materials development applicable to their respective products. The NSSS vendors are also active in trying to prove "pipe leak before break."

We have been able to find no coordinated program of

Table A.6.
EPRI budgetary estimates for LWR safety R&D[a]
($ millions)

Classification	1983	1984	1985	1986	1987	Total
Severe accident analyses	$ 7.4	$ 7.6	$ 7.7	$ 7.8	$8.0	$38.5
Hydrogen control	2.5	1.0	0	0	0	3.5
Human factors	2.0	1.4	1.7	2.2	4.4	11.7
Instrumentation and control	1.1	1.5	1.6	2.1	4.5	10.8
Materials issues/ plant aging	14.6	15.8	18.2	15.8	15.8	79.8
Nondestructive testing	5.4	5.5	5.5	5.6	7.0	29.0
Seismology, soil mechanics, and structures	1.9	2.3	2.3	2.8	3.3	12.6
Health effects of radiation	0.4	0.5	0.5	0.5	0.5	2.4
Personnel dose reduction	1.6	2.1	2.2	2.4	3.1	11.4
R&D codes, thermal-hydraulic research	8.7	9.5	10.1	10.5	11.4	50.2
Safety analysis methodology	5.7	4.5	5.4	7.5	9.0	32.1
Environmental qualification	0.5	0.6	0.6	1.9	2.2	5.8
Total	$51.8	$52.3	$55.8	$58.7	$69.2	$287.8

[a]Source of data: EPRI staff.

R&D in the area of decontamination. Some work is being done by the purveyors of decontamination services. However, much of the backup information for this is considered proprietary data and therefore is not well-exchanged. There is a small EPRI program covering decontamination, and certainly the cleanup of TMI should provide good information.

A.3.6 *Nondestructive testing*

The largest and best-integrated programs in this field are being sponsored by EPRI. All NSSS vendors have some programs in this area, generally focused on the problems unique to their designs. These include remote ultrasonic testing of reactor vessel internal piping and nozzles, reactor vessel stud examination, and remote steam generator tube inspection. These techniques can have a significant effect on in-plant radiation exposure and flaw detection and are considered significant to safety.

A.3.7 *Seismology, soil mechanics, and structures*

The present seismic or dynamic analysis approach in the nuclear industry has largely been one of developing elegant codes for analyzing piping equipment and structures with a relatively poor understanding of forcing functions and damping, among other things. EPRI has done experimental work on pipe snubbers and pipe support behavior and, at small-scale, on containment response. EPRI is now initiating a coordinated approach to the entire problem of seismic design. This includes examination of process and power plants that have survived severe earthquakes. GE has undertaken some work that is particularly applicable to BWRs.

A.3.8 *Personnel dose reduction*

There is effort under way in the private sector to reduce personnel dose. EPRI is developing valve testing methods, refueling tools, and studying robotics for use in plant maintenance. EPRI is also doing corrosion and water chemistry research and investigating elimination of cobalt from plant materials in an effort to reduce sources of radiation. Their extensive program in nondestructive testing contributes to reduced personnel exposure. INPO has set personnel dose reduction as one of its major radiological protection goals. Elements of the INPO program include: emphasis on dose reduction during evaluation and assistance visits, improved worker training in radiological protection, utilization of radiation exposure goals, development of good practices, and promulgation of dose reduction criteria.

The NSSS manufacturers are developing techniques and tools for maintenance and in-service inspection of equipment unique to their nuclear steam system type. These tools and procedures should materially reduce personnel exposure during operation and maintenance.

Architect/engineers are looking into designs to improve shielding arrangements and to arrange equipment for convenient access. This also should reduce personnel exposures.

A.3.9 *R&D Codes, thermal-hydraulic research*

The NSSS vendors have carried out extensive thermal-hydraulic testing and thermal-hydraulic code development to validate their respective designs. Code validation efforts are still underway, in some cases with joint funding from NRC and EPRI. The work covers both loss of coolant (LOCA) and reflood phases of postulated accidents. The reactor vendors have also developed computer models of their plant designs suitable for the exploration of system transients.

EPRI is also supporting a substantial amount of thermal-hydraulic research and code development, much of it jointly with the NSSS vendors. EPRI also has a program to develop system transient prediction codes.

A.3.10 *Safety analysis methodology*

Significant work is being done in the PRA area by the private sector. This work consists of code development and the assembling and analysis of operational data. A number of complete PRAs have been carried out for specific power plants.

INPO manages the Significant Event Evaluation and Information Network (SEE-IN) program for the nuclear utilities. Through this program, plant operating experience information is collected and systematically analyzed to identify events that are significant to plant safety and reliability. Information on these significant events is communicated to INPO members and participants in Significant Event Reports (SERs).

Based on further study of these significant events, it may be decided to issue a Significant Operating Experience Report (SOER). The SOER includes a detailed discussion of the event and recommendations for preventing or mitigating similar events in the future.

Of the approximately 5,000 plant events reported in 1982, 80 resulted in SERs. From these, 16 SOERs containing 91 recommendations for corrective actions were developed and provided to the utilities.

INPO has recently taken over management of the Nuclear Plant Reliability Data System (NPRDS), which compiles the performance and failure experience of nuclear plant equipment. This type of data base is used in PRA.

The Nuclear Safety Analysis Center (NSAC) at EPRI has a program to study low probability, high consequence generic issues that exist in the industry. Methods are being investigated by NSAC to resolve such issues as pressurized thermal shock, steam generator tube ruptures, and decay heat removal system failures.

A.3.11 *Environmental qualifications*

The subject of environmental qualifications of components is receiving considerable attention by industry for the plants under construction as well as for operating plants. The NSSS manufacturers all have programs in place to qualify the equipment within their scope of supply. Similarly, architect/engineers have programs in place. Test facilities have been established for the principal components. For seismic qualification, some test facilities are available in this country. Larger facilities are available in Japan.

However, there are many problems with suppliers of equipment who have no economic interest in undertaking equipment qualification for their lines of equipment, so by and large this has to be handled on an ad hoc basis by the purchaser of the equipment, which is either directly or indirectly the utility.

A.4 *Foreign Programs in LWR Safety Research*

The Board has included foreign programs within their scope of interest because foreign R&D in LWR safety is quite extensive and in many cases is relevant to U.S. technology. The possibility of joint or cooperative programs involving foreign countries is frequently considered in planning U.S. programs.

A.4.1 *General information on foreign programs*

At this point, foreign expenditures on water reactor safety research are of the order of $500 million/year (Table A.7). They exceed U.S. expenditures. In view of the

Table A.7.
Estimates of foreign expenditures on research in water reactor safety,[a] 1981
($ millions)

Country	*Government*	*Private*	*Total*
France	30	>10	> 40
FRG	102	15	117
Japan	139	76[b]	215
Italy	53	0	53
United Kingdom	50	6	56
Canada	11	6	17
Sweden	6	1	7

[a] Sources: NUREG/CR-1040; OECD data.
[b] 1980 estimate.

Table A.8.
Number of projects related to LWR safety listed in OECD Nuclear Safety Research Index (1980/1982)[a]

Project	France	FRG	Japan	Italy	UK	Canada	Sweden
Severe accident analysis	24/10	59/42	11/3	7/10	10/10	2/5	8/12
Hydrogen control	1/1	6/0		1/1		1/2	0/2
Human factors	2/2	1/3	1/0			0/4	1/2
Instrumentation and control	12/3	15/4	0/2	2/0			4/1
Materials issues/ plant aging	9/4	24/23	16/22	9/5	11/12	6/6	2/5
Nondestructive testing	3/4	31/15	5/6	2/2	1/1	1/2	6/7
Seismology, soil mechanics, and structures	6/7	1/2	4/4	5/6	2/2	1/1	1/1
Health effects of radiation[b]							
Personnel dose reduction	4/3	6/6	1/2	1/0	2/4	1/1	2/4
R&D codes, thermal hydraulic research	25/20	51/46	40/52	54/43	27/12	19/15	4/6
Safety analysis methodology	5/5	4/3	0/1	6/3	4/4		0/4
Environmental qualification		2/1	1/1				
	91/59	200/145	79/93	87/70	57/45	31/36	28/44

[a] The first number in each case relates to 1980, the second to 1982.
[b] Not covered by OECD.

common nature of the safety issues worldwide, reactor safety research is an ideal field for international cooperation.

Several multinational programs have been organized by the OECD/NEA and are under way (e.g., Halden Reactor Project, LOFT International Project). Among OECD's activities are a periodic compilation of R&D project descriptions in the OECD Nuclear Safety Research Index. Table A.8 gives a breakdown of the number of projects listed, by country, for those countries with the largest programs. Projects are concentrated most strongly in the categories of R&D codes/thermal-hydraulics, severe accidents, and materials, but all categories are covered.

The International Atomic Energy Agency (IAEA) has an extensive, continuing program in the area of LWR safety, with an annual "technical assistance" budget in excess of $2 million. The IAEA sponsors technical meetings and publishes proceedings of the meetings. The Agency's Nuclear Safety Standards program is scheduled to be completed in 1985 with the publication of a multivolume set of consensus standards covering LWR design and operation. Extensive information collection and dissemination on reactor operation is included in IAEA's program.

The DOE Technical Information Center (TIC) maintains a computerized energy data base (EDB) of U.S. and foreign reports in energy. Most reports and papers referenced in the OECD Index are entered into the TIC system, which contains titles, abstracts, and keywords. The EDB reports on LWR safety are categorized as shown in Table A.9.

A number of mechanisms are used to carry out cooperation between the United States and foreign programs. There are joint programs involving NRC, DOE, EPRI, or specific vendors and foreign organizations. NRC has many exchange agreements with foreign governments. United States vendors have close relationships

Table A.9.
Number of publications in DOE's energy data base in water reactor safety (1977-1982)*

Project	France	FRG	Japan	Italy	UK	USSR	USA
Severe accident analyses	4/17	48/79	9/20	1/5	0/13	2/9	235/297
Hydrogen control	0/1	7/10	3/7	0/0	0/1	0/0	5/34
Human factors	5/21	32/54	9/21	0/7	1/20	4/4	78/164
Instrumentation and control	11/24	73/58	107/160	0/1	9/12	8/27	155/262
Materials issues/plant aging	16/17	28/27	19/53	1/0	3/15	2/12	173/203
Nondestructive testing	29/36	45/46	31/43	4/1	17/35	5/6	193/138
Seismology, soil mechanics, and structures	10/7	22/15	61/79	2/0	3/6	0/1	215/127
Health effects of radiation	32/88	130/164	79/65	4/20	60/109	29/63	234/416
Personnel dose reduction	6/9	15/27	1/17	0/5	0/5	2/2	42/37
R&D codes, thermal-hydraulic research							
a. Codes	8/14	69/41	23/46	1/4	5/2	1/2	240/126
b. Computations	2/6	27/20	4/10	0/1	0/3	3/0	126/265
c. Thermal hydraulics	53/91	94/107	68/105	1/9	13/19	3/6	764/759
Safety analysis methodology	11/19	14/31	2/6	2/3	2/17	0/2	52/164
Environmental qualification	5/2	20/9	25/23	1/0	4/1	2/1	123/76

*The first number in each case is for 1977-79; the second for 1980-82.

with their counterparts in France, Germany, Japan, the United Kingdom, Sweden, and Italy. Utility groups in thirteen other countries are participant members of EPRI's NSAC and of INPO; INPO's agreements with these groups provide for a mutual exchange of information.

A.4.2 *Severe accident analysis*

There appears to be excellent cooperation and interchange within the OECD community in severe accident research. The United States and Germany have the largest programs in this area and appear to be working closely together. The German program consists of laboratory (out-of-pile) experiments on key phenomena involved in severe fuel damage. This work is complementary to NRC's in-pile work.

The United Kingdom, Italy, the Netherlands, Japan, and Belgium are participating jointly with the U.S. NRC in the severe fuel damage program. The foreign financial participation is about $3 million.

The OECD countries are undertaking a program of severe accident studies jointly with the U.S. DOE using the LOFT facility in Idaho. The program is planned to include tests on small-break LOCAs, large-break LOCAs, loss of feedwater, fuel damage, and fission-product transport. Apparently, the SUPERSARA experiment at Ispra, also an OECD project, is being terminated.

Another multinational effort, looking at fission-product and aerosol transport within the primary system, is the Marviken Project in Sweden.

France is carrying out fuel failure experiments in the PHEBUS reactor. The United Kingdom is conducting fuel tests at the Winfrith Steam-Generating Heavy-water Reactor (SGHWR). Belgium has a fuel failure test loop in the BR2 reactor.

Fission-product transport experiments are reportedly being carried out in France and Germany. These cover many phenomena being modeled in computer codes.

Japan is the host organization for fuel safety research under reactivity-initiated accidents. The project is being conducted at the Nuclear Safety Research Reactor (NSRR).

Germany, France, and Sweden have had active programs to investigate advanced containment features (corecatchers, venting, etc.). Sweden has developed and is implementing filters for venting containment vessels.

If any improvements in international cooperation are needed in this area, it would be in gaining more formal interchange with the French programs.

A.4.3 *Hydrogen control*

NRC is cooperating with the European community in the overall evaluation of the threat of hydrogen released during a postulated LWR accident as part of the Committee on the Safety of Nuclear Installations (CSNI) Senior Group of Experts on Severe Accidents. NRC also participates in large-scale hydrogen experimental programs being conducted by EPRI in Nevada in which Japan, Canada, and several European countries take part. The contributions for FY 1983 are as follows: EPRI, $1.0 million; NRC, $0.5 million; and the foreign contribution, $0.9 million.

Significant experiments on hydrogen behavior are under way in Canada at the Whiteshell Nuclear Research Establishment, in France at the SILOE reactor, and at out-of-pile facilities in Germany.

The international cooperation in this area of R&D is believed to be excellent.

A.4.4 *Human factors*

The NRC is a member of the OECD Halden Reactor Project run by Norway that is specifically designed to take into consideration human factors in control room design, fuel behavior, and core and plant surveillance. Included in this program are the following activities: (1) establishing a man-machine display laboratory for human factors studies and (2) tests of alarm logic system and display. NRC's contribution to this $6.0 million/year project is approximately $0.7 million/year.

As part of a joint project with INPO, France is collecting data on human performance in control rooms using EDF training simulators and analyzing incidents where human error has been involved. Finland plans a human factors program at the Loviisa Nuclear Plant. Studies by FRG and Sweden are also reported. France is conducting a number of projects dealing with improved safety system test procedures. Sweden has conducted a study of the human inputs to plant maintenance.

A.4.5 *Instrumentation and control*

Improved LWR instrumentation and control room concepts are being developed in France, Finland, FRG, and Japan, and as part of the OECD Halden Project (in which NRC is a participant). NRC does not currently have research agreements with other countries in this area.

A.4.6 *Materials issues/plant aging*

A number of NRC agreements with other countries address materials issues associated with nuclear reactor safety. There is information exchange with FRG, France, the United Kingdom, Japan, and Switzerland in primary system integrity. In general, these programs include exchange of information and methodology for the study of thermal shock, elastic-plastic fracture mechanics, neutron effects, and crack growth rate.

In general, these agreements do not call for the exchange of funds except where a specific experiment or data analysis is called for in the agreements. The main benefit to the United States is derived from having access to results obtained by foreign groups on work done to address their own nuclear safety materials problems. In some cases, materials data are not readily exchanged because of commercial proprietary issues.

A search of DOE's reports data base on the topic of radiation effects on pressure vessels (1980-1983) showed the following countries to be involved:

	Number of reports
United States	153
FRG	41

Japan	13
United Kingdom	16
France	25
USSR	9

The United States is the single largest participant with many other countries also working in the area. NRC is currently negotiating a cooperative program in this area with FRG and the Scandinavian countries.

Other cooperative materials programs include a polymer-based materials program with France [NRC—$0.4 million, Commissariat a l'Energie Atomique (CEA)—$0.5 million] and a superheated steam reactor safety program with Germany (NRC—$0.3 million, FRG—$7 million).

A.4.7 *Nondestructive testing*

The NRC presently is conducting a joint research program to study the degradation modes of nuclear steam generators. This program, which is making use of the retired-from-service Surry 2A Steam Generator, presently includes EPRI as well as foreign participants including Japan, France, and Italy. The nondestructive testing, inspection, and evaluation techniques used in this program will hopefully prevent recurrence of some forms of steam generator degradation problems typical of this type of generator. The present research program is currently running at $2.0 million/year and of that, $0.8 million is being contributed equally by EPRI and the above foreign participants.

The NRC supports the activities of the OECD's *Program of Inspection of Steel Components* (PISC), which meets periodically to review nondestructive examination issues including measuring techniques and parameter studies on the effect of equipment characteristics. Results of programs being carried out by members, such as work on thermal shock cracks carried out in the German HDR program, are discussed in this forum.

A cooperative effort is also under way between NRC and Germany to perform acoustic emission testing on pressure vessels.

There are major nondestructive examination development centers near Manchester in the United Kingdom and at Saarbrucken, FRG.

A.4.8 *Seismology, soil mechanics, and structures*

NRC has been cooperating with Germany for a number of years on structural response to earthquakes in connection with HEISSDAMPFREAKTOR (HDR) seismic test program at Karlsruhe (KfK). Emphasis has been on predicting the response of the recirculation loop piping system when excited by the detonation of buried explosives located in the soil near the containment building. One of the objectives of the program has been to determine how well advanced computer models can estimate simulated seismic behavior. The Germans are currently planning to build a large building shaker to continue these tests, and the NRC has been asked to participate in the shaker construction to be done by an American firm. Negotiations are currently under way.

Japan has built enormous shaker-table facilities, particularly the Large-Scale, High Performance Vibration Table at the Tadotsu Engineering Laboratory, which cost an estimated 30 billion yen ($120 million). This facility can shake a 363-ton simulated reactor containment vessel. NRC is currently conducting extensive discussions with Japan regarding cooperation in the area of Seismic Safety programs with particular interest in (1) verification tests of seismic analysis codes, (2) seismic proof tests on reactor equipment and components, and (c) proof tests on the reliability of pumps and valves.

The United States is believed to have good information exchange in the seismic area with Canada and France; on the other hand, not all the Japanese data are available.

A.4.9 *Health effects of radiation*

There are extensive foreign programs of research into the health effects of radiation, judging from Table A.9. There is little effective integration between national programs in this area, though published results are exchanged.

A.4.10 *Personnel dose reduction*

NRC presently does not have any direct international agreements specifically addressing this topic. However, NRC has supplied exposure data from licensed activities to the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), which is the principal source of information for the International Commission on Radiological Protection (ICRP). The NRC also participates in the OECD/NEA sponsored Committee on Radiation Protection and Public Health.

Personnel exposure in some foreign countries (e.g., Sweden) and goals for personnel exposure in future designs (e.g., Japan, United Kingdom) are substantially below U.S. experience in commercial LWRs. This is an area where the United States has apparently not looked closely at foreign experience and where some lessons might be learned.

A.4.11 *R&D codes, thermal-hydraulic research*

The area of thermal-hydraulic R&D and the development of large codes to predict thermal-hydraulic behavior formed the bulk of the world's LWR safety R&D until the TMI accident. There has since been a de-emphasis on thermal-hydraulic research and growth in many other areas. The R&D codes developed for thermal-hydraulic and system behavior still represent a large body of effort since they are widely used and continually improved.

The 2D/3D program is centered on major facilities simulating a slab of the reactor core (Japan) and the upper plenum (FRG). The NRC has developed instrumentation for this program and is a participant, although this type of research is no longer given a high priority by the United States.

The NRC-developed codes used in the regulatory process are widely used throughout the world. A number of cooperative agreements with various foreign countries stem from the fact that NRC codes have been effectively used in the regulatory process. In particular, the United Kingdom is using the LOCA codes in the public inquiry of the Sizewell "B" reactor application. The proposed exchange in the seismic area with Japan, for example, will be determined strongly by the exchange of Japanese experimental results for U.S. NRC analytical analysis capabilities. In the case of the ongoing 2D/3D Refill and Reflood program cooperation with Japan, the results from the Japanese Cylindrical Core Test Facility and the Slab Core Test Facility furnished NRC valuable code assessment information in full-scale, three-dimensional geometry. Similar arrangements have been made with Germany through an assessment of NRC codes using the Loop Blowdown Investigation (LOBI) facility data.

A.4.12 *Safety analysis methodology*

There has been a rapid growth of interest in risk assessment methodology following the TMI accident. The FRG has been particularly active in risk assessment; there has been free interchange between United States and German efforts.

The NRC is presently working with the United Kingdom Atomic Energy Authority (UKAEA) Safety and Reliability Service in the areas of probability and statistics for reliability analysis, accident sequence analysis, reliability engineering, and reliability assurance and numerical risk criteria development. The NRC contribution in FY 1983 was $0.18 million, which is a small fraction of the United Kingdom funding in this area.

The U.S. NRC works with a number of European countries in the area of Safety Analysis through its participation in the CSNI Working Group on Risk Assessment and Source-Term and Environmental Consequences.

The Commission of the European Communities (CEC) has developed a methodology for event tree or fault tree analysis at Ispra. CEC is also working on a European Reliability Data System, which should contain reliability information of interest to U.S. reliability data base investigators.

A.4.13 *Environmental qualification* NRC does not currently have specific research agreements with other countries in this area. Some foreign work is reported on the behavior of pumps, steam generators, pressurizers, and valves during and after accidents. The countries involved are France, Italy, and Canada. Japan has a program on qualification testing of electric wires and cables and is believed to have extensive environmental testing facilities.

A.4.14 *Unique foreign facilities*

Multinational nuclear safety research programs tend to be attracted to unique facilities not generallly available within the countries desiring to have the results of the research. The facilities outside the United States that have attracted such multinational programs are identified as follows:

1. Whiteshell Containment Test Facility—Canada—Hydrogen burn inside containment.
2. Marviken Test Facility—Sweden—Blowdown, fluid jet characteristics, reaction and impingement effects, containment characteristics.
3. Heissdampfreaktor—FRG—Seismic response of buildings and equipment, blowdown.
4. Meppen Missile Test Facility—FRG—Effects of soft missiles on concrete and steel targets.
5. Winfrith Missile Launcher Laboratory—United Kingdom—Scale model tests of missile effects.
6. NRU—Chalk River, Canada—Fuel rod cluster, damage experiments.
7. OVER-RAMP—Studsvik, Sweden—Study behavior of LWR fuel when subject to power excursions.
8. Halden Reactor—Norway—Research reactor, control room and simulator facilities, used for human factors research.
9. Upper Plenum Test Facility—FRG—A large simulation of a PWR upper plenum to test emergency core cooling system (ECCS) thermal-hydraulic behavior (2D/3D Program).
10. Large-Scale Reflood Test—Japan—A large simulation of a PWR core to test ECCS performance (2D/3D Program).

Currently, there are a number of special facilities not being used in multinational testing that are available in foreign countries and that should be of interest in planning future safety research programs. These are listed as follows:

1. Canadian Westinghouse Environmental Test Facility—Canada—Containment environmental simulation and testing.
2. Saclay Missile Test Facility—France—Small-diameter missile effects.
3. Cadarache Pipe Break Test Facility—France—Test of pipe whip and break phenomena.
4. NUPEC—Todatsu Seismic Test Facility—Japan—Full-scale shaker table test facility.
5. JAERI—Tokai Pipe Break Test Facility—Japan—test of pipe-break and pipe-whip phenomena.
6. NUPEC—Isago Environmental Test Facility—Japan—Containment environment simulation and testing.
7. JRC Biaxial Dynamic Testing Facility—Ispra, Italy—Dynamic testing of large structural element. Tests for response of structure and equipment to high frequency input motion.
8. Nuclear Safety Research Reactor (NSRR) Program—JAERI, Japan—fuel rod failure tests in a TRIGA-type reactor.
9. MPA (Materials Pruefungs Anstalt) at the University of Stuttgart, FRG.

A variety of foreign facilities for thermal-hydraulic testing are not listed above on the presumption that the United States has an adequate number of such facilities already.

The Board has commissioned a compilation of foreign facilities.[1] Table A.10 is a summary of the facilities covered and their applicability to the technical areas of this study.

Table A.10.
Distribution of facilities by country and key areas addressed

LWR safety R&D areas	France	FRG	Japan	Italy	UK	Canada	Sweden	Norway	USA
Severe accident analysis	3,4	5,6,7	10, 11,12	8	16,17	1	15	13	18, 19,20
Hydrogen control						1			
Human factors								13,14	
Instrumentation and control								13	
Materials issues, plant aging		6,7	12		16,17				20
Nondestructive testing		6							18,19
Seismology, soil mechanics, and structures		6	9						
Personnel dose reduction									
R&D codes, thermal-hydraulic research	3,4	5,6	10, 11,12	8	16		15		18, 19,20
Safety analysis methodology									
Environmental qualification			12			2			

Facility Key	*Location*	*Facility Key*	*Location*
1. Whiteshell Containment Facility	Canada	11. ROSA	Japan
2. Environmental Test Facility	Canada	12. Isugu	Japan
3. Phebus	France	13. Halden Reactor	Norway
4. Pericles	France	14. STUDS - Simulator	Norway
5. UPTF	Germany	15. Marviken Power Station	Sweden
6. HDR	Germany	16. MFTF	United Kingdom
7. Meppen Missile Test Facility	Germany	17. MLL	United Kingdom
8. LOBI	Italy	18. LOFT	United States
9. Vib Table	Japan	19. Semiscale	United States
10. Cyl and Slab	Japan	20. PBF	United States

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11. Letter from J. J. Taylor, EPRI, to members of ERAB LWR Panel, March 30, 1983.

QUESTION 30: HOW DOES THE INDUSTRY'S RESEARCH EFFORTS CONTRIBUTE TO THE WHOLE FIELD OF NUCLEAR SAFETY RESEARCH?

ANSWER

SEE RESPONSE TO QUESTION 29.

QUESTION 31: CAN INDUSTRY RESEARCH REPLACE NRC RESEARCH PROGRAMS THAT MUST BE CUT AS A RESULT OF THE REDUCED FUNDING?

ANSWER

CONCEPTUALLY, INDUSTRY RESEARCH COULD REPLACE SOME OF THE NRC RESEARCH PROGRAMS THAT MUST BE CUT AS A RESULT OF THE REDUCED FUNDING. HOWEVER, THE NRC RESEARCH PROGRAM IS REQUIRED TO ASSESS THE ACCURACY AND COMPLETENESS OF THE APPLICANTS' RESEARCH AND THE ADEQUACY OF THEIR PROPOSALS. RESEARCH BY NRC IS CARRIED OUT TO SUPPORT THE DEVELOPMENT OF LICENSING CRITERIA, RESOLVE GENERIC SAFETY ISSUES, AND PROVIDE AN AUDIT CAPABILITY FOR REVIEW OF APPLICANTS' DATA IN THE LICENSING REVIEW. FURTHER, WORK IS REQUIRED TO DEVELOP AN INDEPENDENT BASE OF PHYSICAL DATA, ENGINEERING INFORMATION, AND COMPUTER CODES TO SUBSTANTIATE THE TECHNICAL BASIS FOR LICENSING AND INSPECTION. ONLY THOSE RESEARCH EFFORTS WHICH MEET THESE OBJECTIVES ARE FUNDED BY NRC.

IF INDUSTRY RESEARCH WERE TO REPLACE NRC RESEARCH PROGRAMS, THE NRC WOULD STILL NEED TO ASSESS THE ACCURACY AND APPLICABILITY OF INDUSTRY RESEARCH EFFORTS TO PROVIDE THE BASIS FOR REGULATORY DECISIONS. A LACK OF INDEPENDENT RESEARCH CAPABILITY BY THE NRC WOULD LIKELY RESULT IN SIGNIFICANT DELAYS AND MORE CONSERVATIVE APPROACH TO REGULATION.

COMMISSIONER ASSELSTINE HAS THE FOLLOWING VIEWS:
COMMISSIONER ASSELSTINE REFERS TO HIS RESPONSE TO QUESTIONS 29 AND 30.

QUESTION 32: WHAT IS THE CURRENT STATUS OF INTERNATIONAL REACTOR SAFETY RESEARCH PROGRAMS AND WHAT IS THIS COUNTRY'S INVOLVEMENT IN THOSE PROGRAMS?

ANSWER

SINCE THE THREE MILE ISLAND ACCIDENT, COUNTRIES OPERATING NUCLEAR POWER PLANTS HAVE BECOME INCREASINGLY AWARE OF THE NEED TO SHARE OPERATIONAL SAFETY DATA AND EXPERIENCE TO HELP PREVENT ACCIDENTS. THE NRC IS COMMITTED, TO THE EXTENT POSSIBLE, TO SHARE WITH OTHER COUNTRIES NUCLEAR SAFETY INFORMATION WHICH MAY HELP PREVENT SERIOUS NUCLEAR ACCIDENTS IN OTHER COUNTRIES. THE NRC HAS ENTERED INTO OVER 50 BILATERNAL COOPERATIVE AGREEMENTS WITH 21 COUNTRIES WHICH SERVE TO ESTABLISH OFFICIAL COMMUNICATION CHANNELS ON REACTOR SAFETY PROBLEMS, SET UP A MECHANISM FOR COOPERATION, AND PROVIDE A VEHICLE FOR EXCHANGE OF TECHNICAL INFORMATION AND RESULTS FROM OTHER COUNTRIES' NUCLEAR SAFETY RESEARCH PROGRAMS. NRC'S NUCLEAR SAFETY RESEARCH COOPERATION COVERS THE SPECTRUM OF NUCLEAR REACTOR SAFETY ISSUES OF INTEREST TO THE INTERNATIONAL NUCLEAR REACTOR COMMUNITY.

IN PARTICULAR, THE MAJORITY OF NUCLEAR COUNTRIES ARE PRESENTLY PARTICIPATING IN NRC'S SEVERE FUEL DAMAGE, FISSION PRODUCT SOURCE TERM RESEARCH PROGRAM. THE INTERNATIONAL PARTNERS TO THIS PROGRAM CONTRIBUTE SIGNIFICANTLY IN TERMS OF IN-KIND RESEARCH PROGRAMS CONDUCTED IN THEIR HOME LABORATORIES AND IN SOME CASES PROVIDING DIRECT FINANCIAL CONTRIBUTIONS TO COVER THE COST OF CONDUCTING IN-PILE SEVERE ACCIDENT SIMULATION EXPERIMENTS.

ANOTHER MAJOR NRC SAFETY RESEARCH AREA HAVING A SUBSTANTIAL INTERNATIONAL PARTICIPATION IS THE AREA OF THERMAL HYDRAULIC TRANSIENT ANALYSIS. IN THIS PROGRAM NRC DEVELOPED CODES ARE BEING ASSESSED BY FOREIGN RESEARCH GROUPS MAKING USE OF TEST DATA OBTAINED IN THEIR OWN FACILITIES. IN A RELATED AREA TO STUDY THE BEHAVIOR OF EMERGENCY CORE COOLING DURING THE REFILL AND REFLOOD PHASE OF A LOSS-OF-COOLANT ACCIDENT IN PWRS, NRC IS WORKING VERY

CLOSELY WITH JAPAN AND GERMANY TO DETERMINE MULTIDIMENSIONAL FLOW BEHAVIOR USING FOREIGN EXPERIMENTAL RESULTS AND NRC ANALYTICAL TECHNIQUES.

IN THE AREA OF MATERIALS RESEARCH, THE NRC HAS SHARED WITH OTHER PARTNERS ALL THE RESEARCH DERIVED FROM ITS HEAVY SECTION STEEL TECHNOLOGY PROGRAM AND RESEARCH IN FRACTURE MECHANICS AND PRESSURIZED THERMAL SHOCK. NRC IS PRESENTLY EXPANDING THIS BY ASKING OTHER COUNTRIES TO PARTICIPATE IN AN INTERNATIONAL PIPING INTEGRITY RESEARCH PROGRAM DESIGNED TO DEVELOP BETTER PIPING CRITERIA. IN THE AREA OF SEISMIC RESEARCH, NRC IS PRESENTLY COOPERATING WITH OTHER COUNTRIES TO OBTAIN NECESSARY TEST DATA TO VALIDATE ANALYTICAL TECHNIQUES BEING USED TO PREDICT EQUIPMENT RESPONSE AND FAILURE MODES DURING EARTHQUAKES.

IN THE AREA OF FAILURE MODES OF NUCLEAR REACTOR CONTAINMENT STRUCTURES UNDER EXTREME LOADING CONDITIONS, SEVERAL COUNTRIES ARE PARTICIPATING WITH NRC IN MAKING PRETEST PREDICITONS FOR LARGE-SCALE (ONE-SIXTH SCALE) EXPERIMENTS TO BE CONDUCTED BY NRC. THE INTERNATIONAL INTEREST IN THIS PROGRAM IS DUE TO THE IMPACT OF THESE RESULTS ON CONSEQUENCE ANALYSIS OF CONTAINMENT FAILURE DURING A SEVERE ACCIDENT. IN A RELATED AREA OF NUCLEAR CORE-CONCRETE INTERACTION RESULTING FROM A CORE MELT ACCIDENT, NRC IS WORKING WITH OTHER COUNTRIES TO EVALUATE EXPERIMENTAL RESULTS OBTAINED MOSTLY IN THIS COUNTRY AND GERMANY. THE WORK IN GERMANY IS NOW COMPLETED AND NRC WORK IN THIS AREA WILL BE USED EXTENSIVELY BY OTHER COUNTRIES TO EVALUATE THE EFFECTS OF CORE MELT DOWN ON CONCRETE STRUCTURES.

IN ADDITION TO HAVING ACCESS TO FOREIGN RESEARCH RESULTS, THE NRC RECEIVES DIRECT FINANCIAL CONTRIBUTIONS FROM OTHER COUNTRIES; ON A YEARLY BASIS THESE FUNDS TOTAL APPROXIMATELY $5 MILLION.

THE NUCLEAR COUNTRIES THAT HAVE SUBSTANTIAL NUCLEAR SAFETY RESEARCH PROGRAMS IN ADDITION TO THE U.S. ARE CANADA, FRANCE, FEDERAL REPUBLIC OF GERMANY, JAPAN, SWEDEN, AND THE UNITED KINGDOM.

NUCLEAR SAFETY CONSIDERATIONS ARE BEING ADDRESSED BY EACH OF THESE COUNTRIES INDIVIDUALLY AND THROUGH BILATERAL AND MULTILATERAL AGREEMENTS IN WHICH NRC IS USUALLY REPRESENTED.

IN ADDITION, THESE COUNTRIES AS WELL AS THE U.S. PARTICIPATE IN INTERNATIONAL ORGANIZATIONS SUCH AS THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) AND THE NUCLEAR ENERGY AGENCY (NEA) WHICH INCLUDES THE U.S., JAPAN AND MOST WESTERN EUROPEAN COUNTRIES AS PARTICIPATING MEMBERS. THE IAEA ACTIVITIES ARE DESIGNED TO IMPROVE NUCLEAR SAFETY BY THE DEVELOPMENT OF INTERNATIONALLY RECOGNIZED NUCLEAR SAFETY STANDARDS; IMPROVMENT OF THE NUCLEAR REGULATORY PROCESS AND BY ASSISTING THE SAFETY EFFORTS OF COUNTRIES JUST STARTING NUCLEAR PROGRAMS. THE NEA MEMBER NATIONS ACCOUNT FOR APPROXIMATELY 240 (77%) OF THE 300+ PLANTS CURRENTLY IN OPERATION WORLDWIDE. NEA DEVOTES THE MAJOR PORTION OF ITS RESOURCES TO NUCLEAR SAFETY AND REGULATION. FOR EXAMPLE, THE NEA'S COMMITTEE ON SAFETY OF NUCLEAR INSTALLATIONS RECENTLY COMPLETED A STUDY, WITH EXTENSIVE INPUT FROM NRC, TO ESTABLISH PRIORITIES IN LWR SAFETY RESEARCH. THE NRC CONTRIBUTION TO THIS STUDY INCLUDED IDENTIFICATION OF MAJOR AREAS FOR FUTURE DIRECTION IN NUCLEAR SAFETY RESEARCH INCLUDING MECHANISMS AND SIGNIFICANCE OF AGING AND DEGRADATION IN SERVICE; COMPLEX OPERATIONAL AND THERMAL HYDRAULIC TRANSIENTS; RISK FROM SEVERE ACCIDENTS AND THEIR REGULATORY IMPLICATIONS; PLANT OPERATIONS AND RISK ASSESSMENT; AND SEISMIC ANALYSIS OF DESIGNS.

QUESTION 33: PLEASE GIVE PERCENTAGE OF CONFIRMATORY RESEARCH AND SUPPORTING RESEARCH EFFORTS IN THE OFFICE OF RESEARCH AND THE REASONING BEHIND THESE PERCENTAGES.

ANSWER

ALL PROGRAMS IN THE OFFICE OF RESEARCH HAVE A REGULATORY FOCUS, I.E., THESE PROGRAMS SUPPORT THE NRC MISSION BY PROVIDING INFORMATION, DATA, AND METHODS NEEDED FOR THE PERFORMANCE OF THE COMMISSION'S REGULATORY FUNCTIONS IN SUCH A WAY THAT THE SAFETY AND HEALTH OF THE PUBLIC AND THE ENVIRONMENT ARE PROTECTED.

APPROXIMATELY 80 PERCENT OF THIS RESEARCH CAN BE CONSIDERED AS CONFIRMATORY RESEARCH IN THAT IT IS DIRECTED AT CONFIRMING OR VALIDATING NRC REGULATIONS OR THE STAFF'S INTERPRETATION AND IMPLEMENTATION OF THESE REGULATIONS, WHICH ARE SOMETIMES MADE ON THE BASIS OF LIMITED DATA AND IN THE FACE OF SUBSTANTIAL UNCERTAINTIES AND THUS INVOLVE A LARGE ELEMENT OF ENGINEERING JUDGMENT. THE BALANCE IS NONCONFIRMATORY RESEARCH AIMED AT IDENTIFYING PROBLEMS BEFORE THEY OCCUR, OR PROVIDING THE BASIS FOR DEVELOPMENT OF A REGULATORY POSITION - FOR EXAMPLE:

- PORTIONS OF THE RESEARCH IN THE AREA OF PLANT AGING AND DEGRADATION, WHICH IN GENERAL ADDRESSES SPECIFIC CURRENT CONCERNS ABOUT THE CONTINUED SAFETY AND VIABILITY OF MANY OF THE OPERATING REACTORS, WILL DEFINE APPROPRIATE REQUIREMENTS FOR LICENSING ACTION TO EXTEND EFFECTIVE PLANT LIFE BEYOND THAT ORIGINALLY ANTICIPATED.

- WORK ON DAMAGED FUEL IS BEGINNING TO PROVIDE CHARACTERIZATION OF THE REACTOR CORE DURING CORE-MELT PROGRESSION. THIS WORK IS REQUIRED FOR USE IN SEVERE FUEL DAMAGE SOURCE TERM ASSESSMENT AND FOR BENCHMARKING SIMPLIFIED SEVERE ACCIDENT SAFETY ANALYSES CODES.

- RESEARCH ON THE EFFECTS OF THE DAMAGED CORE ON CONTAINMENT LOADING WILL BE USED TO PROVIDE THE TECHNICAL BASIS FOR CLOSURE OF ISSUES RELATED TO CONTAINMENT PERFORMANCE UNDER SEVERE ACCIDENT CONDITIONS.

- THE RESEARCH IN THE SEVERE ACCIDENT RISK ASSESSMENT PROGRAMS IS BEING USED TO PREPARE NUREG-1150. THIS REPORT WILL BE USED AS A BASIS FOR DEVELOPING METHODOLOGY TO APPLY RISK-BASED TECHNIQUES TO PLANTS WITHOUT PROBABILISTIC RISK ASSESSMENTS (PRAS) AS PART OF THE OFFICE OF NUCLEAR REACTOR REGULATION'S IMPLEMENTATION OF THE COMMISSION'S SEVERE ACCIDENT POLICY AND TO ASSESS THE RISK IMPORTANCE OF EXISTING AND PROPOSED REGULATORY REQUIREMENTS.

QUESTION 34 PLEASE LIST NRC RESEARCH PRIORITIES AND THE EXPLANATION FOR THE RANKING.

ANSWER

THE NRC RESEARCH PROGRAM IS ARRANGED INTO SIX RESEARCH AREAS: ENGINEERING; SEVERE ACCIDENTS; THERMAL HYDRAULICS; RISK; SEISMIC; AND WASTE MANAGEMENT. THESE REPRESENT THE HIGHEST PRIORITY AREAS FOR RESEARCH. AT PRESENT WE DO NOT PRIORITIZE OR PUT INTO ANY ORDER OF RANKING THESE SIX AREAS. KEY CONSIDERATIONS FOR THE ORDERING OF RESEARCH PRIORITIES WITHIN EACH PROGRAM AREA ARE RISK RELEVANCE AND REGULATORY SIGNIFICANCE. RISK RELEVANCE IS INDICATED BY THE DEGREE TO WHICH THE RESEARCH WILL CONTRIBUTE TO THE RISK-REDUCTION POTENTIAL AND THE DEGREE TO WHICH UNCERTAINTIES CAN BE IDENTIFIED AND REDUCED. REGULATORY SIGNIFICANCE IS INDICATED BY THE RELEVANCE AND TIMELINESS OF RESEARCH RESULTS FOR THE RESOLUTION OF REGULATORY ISSUES. THESE DETERMINATIONS ARE MADE IN EXTENSIVE INTERFACES BETWEEN OFFICE OF RESEARCH STAFF AND THE STAFF OF USER PROGRAM OFFICES.

PRIORITIZING RESEARCH ACTIVITIES HAS PRESENTED A COMPLEX TASK IN RECENT YEARS OF DECLINING RESOURCES WITH AN AGENDA OF IMPORTANT SAFETY ISSUES TO BE ADDRESSED. IN OUR EFFORTS TO REFINE AND IMPROVE THE PRIORITIZATION OF RESEARCH ACTIVITIES WE ARE PRESENTLY DEVELOPING AND TESTING A MORE SOPHISTICATED PRIORITIZATION SCHEME BASED ON REGULATORY SIGNIFICANCE OF UNCERTAINTIES, RISK RELEVANCE, MAINTENANCE OF EXPERTISE, AND ABILITY TO UNCOVER UNRECOGNIZED SAFETY PROBLEMS. THIS SYSTEM IS STILL UNDER DEVELOPMENT, HOWEVER, AND IS NOT YET USABLE FOR MAKING DECISIONS.

IT IS IMPORTANT TO OBSERVE THAT THE BUDGET LEVEL IN FY 1987 IS AT A REDUCED LEVEL RELATIVE TO PRIOR YEARS SUCH THAT NOT ALL OF THE PROGRAM OFFICE REQUESTS ARE BEING SATISFIED. ALSO, SEVERAL IMPORTANT RESEARCH AREAS (RADIATION PROTECTION, CHEMICAL ENGINEERING, AND ELECTRICAL ENGINEERING) ARE DISCONTINUED IN FY 1987. HENCE, ONLY THE HIGHEST PRIORITY TASKS WILL BE FUNDED.

QUESTION 35: WHAT PHASES OF YOUR SOURCE-TERM PUBLIC COMMENT ANALYSIS HAVE BEEN COMPLETED AND WHICH HAVE NOT? PLEASE VERIFY THE COMPLETION OF THE LARGE DRY CONTAINMENT PHASE OF SOURCE-TERM, PROVIDE A TIMETABLE FOR COMPLETION OF THE CONSIDERATION OF ALL PUBLIC COMMENTS PERTAINING TO NUREG-0956, AND FOR IMPLEMENTATION OF THE FINDINGS.

ANSWER

NUREG-0956, "REASSESSMENT OF THE TECHNICAL BASES FOR ESTIMATING SOURCE TERMS," WAS PUBLISHED IN JULY 1985 FOR PUBLIC COMMENT. THIS DOCUMENT IS LIMITED IN SCOPE TO THE UNDERSTANDING OF PHENOMENA AND ITS USE IN ANALYSIS CONDITIONAL UPON EVENTS OCCURRING AND DOES NOT ANALYZE AND COMPARE SPECIFIC DESIGNS. DURING THE COMMENT PERIOD, WHICH ENDED JANUARY 7, 1986, THE STAFF RECEIVED 68 COMMENT LETTERS, COMPRISING SOME 700 PAGES OF TEXT. THE FINAL DOCUMENT IS EXPECTED TO BE PUBLISHED IN JULY 1986. THE IMPORTANT COMMENTS ON NUREG-0956 ADDRESS: (1) WHETHER THE FINDINGS IN THAT DOCUMENT ARE JUSTIFIABLE AND DEFENSIBLE, (2) THE PEER REVIEWS HELD FOR THE ANALYTICAL PROCEDURE, (3) VALIDATION OF THE MODELS (COMPARISON WITH EXPERIMENTS) (4) PROCEDURES FOR EVALUATING THE UNCERTAINTY, (5) UNCERTAINTY IN THE CHEMICAL MODELS, ESPECIALLY THOSE FOR IODINE AND (6) PROCEDURES FOR EVALUATING THE BEHAVIOR OF THE CONTAINMENT.

UNCERTAINTIES, THE PREDICTION OF CONTAINMENT BEHAVIOR, AND PROJECTIONS OF PUBLIC CONSEQUENCES WILL BE ADDRESSED IN THE STAFF'S DOCUMENT ON THE RISK OF SIX SPECIFIC PLANTS, NUREG-1150, SCHEDULED FOR PUBLICATION FOR PUBLIC COMMENT IN THE FALL OF 1986. THIS WILL COMBINE ACCIDENT FREQUENCY PREDICTIONS WITH ALTERNATIVE CALCULATIONS USING THE ANALYTICAL MODELS OF NUREG 0956.

ALTHOUGH WORK HAS BEGUN ALREADY ON REVIEW OF THREE SPECIFIC AREAS OF SOURCE-TERM RELATED CHANGES (THE USE OF SPRAY ADDITIVES IN

PRESSURIZED WATER REACTOR (PWR) CONTAINMENT SPRAY SYSTEMS, CREDIT FOR FISSION PRODUCT SCRUBBING IN BOILING WATER REACTOR (BWR) SUPPRESSION POOLS FOR DESIGN BASIS ACCIDENTS, AND USE OF NEW INFORMATION IN NEAR-TERM DRAFT ENVIRONMENTAL STATEMENTS), THE REVIEW OF REGULATORY PRACTICES IN OTHER AREAS OF POTENTIAL CHANGE MUST AWAIT THE RISK INFORMATION AND THE UNCERTAINTY INFORMATION BEING EVALUATED FOR NUREG-1150. THIS RISK AND UNCERTAINTY INFORMATION MAY (OR MAY NOT) SHOW THAT CHANGES ON THE BASIS OF PLANT TYPE ARE APPROPRIATE. IT IS PREMATURE TO SPECULATE AT THIS TIME WHETHER THE STATUS OF KNOWLEDGE ON RISK AND UNCERTAINTIES FOR PLANTS WITH LARGE DRY CONTAINMENTS IS SO FAR ADVANCED RELATIVE TO OTHER PLANT TYPES TO WARRANT CHANGES FOR THAT PLANT TYPE ONLY. SOME OF THE WORK IN NRC'S HYDROGEN RESEARCH PROGRAM IS AIMED AT DETERMINING THE NEED FOR AN ADDITION TO NRC'S STANDARDS FOR COMBUSTIBLE GAS CONTROL (10 CFR 50.44) TO COVER HYDROGEN BURNING AND DETONATIONS IN LARGE DRY CONTAINMENTS. THIS ADDITION, FOR WHICH A DECISION IS SCHEDULED FOR THE SUMMER OF 1986 WHEN THE RESEARCH IS COMPLETE, WOULD COVER ACCIDENTS INVOLVING DEGRADATION OF THE REACTOR CORE BUT NOT VESSEL FAILURE.

THE IMPLEMENTATION PHASE OF THE SOURCE TERM REASSESSMENT HAS BEGUN ALREADY WITH THE START OF THE REVIEW OF THE THREE AREAS MENTIONED ABOVE. FIVE AREAS HAVE BEEN IDENTIFIED FOR REVIEW IN THE INTERMEDIATE TERM, THAT IS, AFTER THE RISK AND UNCERTAINTY INFORMATION IS AVAILABLE. THOSE FIVE ARE: (1) EMERGENCY PLANNING, (2) CONTAINMENT LEAK RATES AND INTEGRITY, (3) CONTROL ROOM HABITABILITY, (4) ENVIRONMENTAL QUALIFICATION OF EQUIPMENT, AND (5) SAFETY ISSUE EVALUATION. CHANGES IN RULES, REGULATORY GUIDES, AND THE STANDARD REVIEW PLAN ARE SCHEDULED TO BE ISSUED FOR COMMENT DURING THE PERIOD FROM FEBRUARY 1987 THROUGH JUNE 1987. TWO AREAS SCHEDULED FOR REVIEW BY THE END OF 1987 ARE: SITING AND ACCIDENT MONITORING, AND MANAGEMENT.

QUESTIONS SUBMITTED BY SENATOR DOMENICI

QUESTION 36: COMMISSIONER, I UNDERSTAND THAT THE ADMINISTRATION PROPOSES TO INCREASE NRC FEES TO COLLECT $150 MILLION IN ADDITIONAL RECEIPTS IN FY 1987, INCREASING NRC FEE COLLECTIONS TO APPROXIMATELY $200 MILLION IN FY 1987, OR APPROXIMATELY HALF OF NRC'S PROPOSED BUDGET.

(A) WHAT IS THE IMPACT OF YOUR CURRENT FEES ON ELECTRIC UTILITY AND THE OTHER CUSTOMERS YOU CURRENTLY REGULATE. HOW WILL YOUR PROPOSED INCREASES AFFECT CONSUMERS' ELECTRIC RATES AND OTHER ORGANIZATIONS' COSTS WHICH YOU LICENSE AND REGULATE.

ANSWER

NRC'S CURRENT FEE SCHEDULE WENT INTO EFFECT ON JUNE 20, 1984. THE LICENSE FEES COLLECTED AND DEPOSITED IN THE U. S. TREASURY, DURING FY 1985 TOTALED $79.2 MILLION 1/ AND IS ESTIMATED TO BE ABOUT $60 MILLION DURING FY 1986. THE PROPOSED INCREASES WOULD BE A THREE-FOLD INCREASE, BUT WE ARE UNABLE TO PROJECT WHAT EFFECT THIS WOULD HAVE ON CONSUMERS ELECTRIC RATES, SINCE CHANGES MUST BE JUSTIFIED AND THEN APPROVED BY EACH STATES'S PUBLIC UTILITY COMMISSION.

QUESTION 36: (B) PLEASE EXPLAIN THE RATIONALE FOR CHARGING CUSTOMERS FOR NUCLEAR ENVIRONMENTAL AND SAFETY REGULATION?

1/ THE FEE SCHEDULE EFFECTIVE JUNE 20, 1984 IMPLEMENTED PROGRESSIVE BILLING AS OPPOSED TO A ONE-TIME BILLING WHEN THE OPERATING LICENSE WAS ISSUED. AS A RESULT ALL NRC COSTS INCURRED IN THE LAST TEN YEARS FOR CONSTRUCTION PERMITS AND OPERATING LICENSES UNDER REVIEW WERE BILLED IN FY1985.

ANSWER

IT EXTENDS THE PRINCIPLE THAT THE BENEFICIARIES OF THE SERVICES PROVIDED FROM THE GENERATION OF NUCLEAR ELECTRIC POWER WOULD PAY FOR THE COST OF REGULATION.

QUESTION 36: (c) WE ARE NOT CHARGING EPA PERMIT OR INSPECTION FEES TO RECOVER EVEN 1 PERCENT OF EPA'S BUDGET. CAN YOU EXPLAIN THE ADMINISTRATION'S INCONSISTENCY IN THIS AREA?

ANSWER

SINCE ABOUT 1982, THERE HAS BEEN A GENERAL PUSH BY THE ADMINISTRATION TO RECOVER MORE AND MORE OF THE COST OF GOVERNMENT THROUGH USER FEES. WE DO NOT KNOW WHY EPA HAS APPARENTLY BEEN OVERLOOKED IN THIS REGARD.

QUESTIONS SUBMITTED BY SENATOR BURDICK

QUESTION 37: THE NUCLEAR REGULATORY COMMISSION FY87 BUDGET REQUEST DOES NOT CONTAIN RESOURCES TO IMPLEMENT THE RECENTLY ENACTED LOW-LEVEL RADIOACTIVE WASTE AMENDMENTS ACT. HOW DOES THE COMMISSION PLAN TO FUND ITS NEW RESPONSIBILITIES PROVIDED BY THE ACT? IT WOULD APPEAR THAT THE AGENCY WILL HAVE TO REPROGRAM ITS RESOURCES IN ORDER TO ALLOW UP THE NECESSARY FUNDS. WHAT WILL BE THE IMPACT OF THIS INEVITABLE FUND REPROGRAMMING?

ANSWER

SEE ANSWER TO QUESTION 13.

QUESTION 38: THE NUCLEAR WASTE POLICY ACT (NWPA) OF 1982 ESTABLISHES A NATIONAL POLICY FOR THE SAFE STORAGE AND DISPOSAL OF SPENT NUCLEAR FUEL AND HIGH-LEVEL WASTE. WHILE THE NWPA DOES NOT AUTHORIZE THE ACTUAL CONSTRUCTION OF A SECOND REPOSITORY, IT DOES REQUIRE DOE TO CARRY OUT THE SITING AND DEVELOPMENT ACTIVITIES ESSENTIAL TO PREPARATION FOR SUCH A REPOSITORY. AT PRESENT, TWELVE PROPOSED POTENTIALLY ACCEPTABLE SITES HAVE BEEN SELECTED. OUR NEIGHBOR STATE OF MINNESOTA HOUSES FOUR OF THEM. UNDER THE REQUESTED BUDGET, WHAT WILL BE THE APPROXIMATE TIMEFRAME FOR THE SECOND REPOSITORY? ARE THERE ANY ADVERSE IMPACTS CAUSED BY THE INTERAGENCY CONTROL OF HIGH-LEVEL WASTE? IF SO, WHAT WOULD YOU RECOMMEND TO ENSURE THE MORE EFFICIENT DISPOSAL OF HIGH-LEVEL WASTE?

ANSWER

DURING THE REQUESTED BUDGET TIMEFRAME (THRU FY89), DOE WILL PROCEED FROM REGIONAL TO AREA SCREENING, AND WILL IDENTIFY AND INITIATE

FIELD INVESTIGATIONS AT POTENTIALLY ACCEPTABLE SECOND REPOSITORY SITES (PER DOE FY87 BUDGET REQUEST).

MAJOR MILESTONES BEYOND THE BUDGET HORIZON FOR THE SECOND REPOSITORY SITE ARE:

o RECOMMEND CANDIDATE SITES TO PRESIDENT FOR CHARACTERIZATION	1993
o PRESIDENT RECOMMENDS REPOSITORY SITE TO CONGRESS	1999
o SUBMIT LICENSE APPLICATION TO NRC	2000
o RECEIVE CONSTRUCTION AUTHORIZATION FROM NRC	2002
o BEGIN OPERATIONS	2008

WE BELIEVE THAT THE NWPA PROVIDES A PROCESS FOR INTERAGENCY PARTICIPATION IN THE HIGH-LEVEL WASTE PROGRAM WITHOUT CAUSING ADVERSE IMPACTS. THE PROJECT DECISION SCHEDULE (PDS) DEFINES THE ROLE, MILESTONES, AND SCHEDULES FOR EACH PARTICIPATING FEDERAL AGENCY, STATE, AND INDIAN TRIBE. THE NWPA (SECTION 114(E)(2)) REQUIRES THAT A FEDERAL AGENCY MUST REPORT TO DOE AND TO THE CONGRESS IF IT FAILS TO MEET OR DETERMINES THAT IT CANNOT COMPLY WITH ANY (OF ITS) DEADLINES IN THE PDS.

FEDERAL ENERGY REGULATORY COMMISSION

STATEMENT OF ANTHONY G. SOUSA, ACTING CHAIRMAN

ACCOMPANIED BY:
WILLIAM G. McDONALD, EXECUTIVE DIRECTOR
WILLIAM H. SATTERFIELD, GENERAL COUNSEL

Chairman HATFIELD. Now, we welcome the Acting Chairman, Anthony G. Sousa of the Federal Energy Regulatory Commission. He is accompanied by Mr. William G. McDonald and Mr. William H. Satterfield.

I believe, Mr. Chairman, this is your first appearance before the committee.

Mr. SOUSA. That is correct, Mr. Chairman.

Chairman HATFIELD. I am delighted to help break you into this process.

Mr. SOUSA. Thank you.

Chairman HATFIELD. You have a friendly court here. We will include your full statement in the record and ask you to highlight or summarize it as you wish.

Mr. SOUSA. Thank you, Mr. Chairman. I do have a summary.

INTRODUCTION OF ASSOCIATES

Mr. Chairman and members of the subcommittee, I appreciate this opportunity to discuss with you today the Federal Energy Regulatory Commission fiscal year 1987 budget request. I am accompanied by Mr. William G. McDonald, the Commission's Executive Director on my left, and Mr. William H. Satterfield, the Commission's General Counsel on my right, and by the Directors of the Commission's program offices, who will be available to assist me in answering your questions.

BUDGET OVERVIEW

The Commission's fiscal year 1987 budget request, which meets the deficit reduction targets under the Balanced Budget and Emergency Deficit Control Act of 1985, otherwise known as Gramm-Rudman-Hollings, is $99,079,000 and 1,659 full-time employees. Of this, $78,754,000 would be offset by revenues from fees and charges. For fiscal year 1986, the Commission received an appropriation, including transfer from DOE, of $98,852,000. So the 1987 budget request represents an increase of only $227,000 over fiscal year 1986. However, our fiscal year 1986 appropriation was reduced by $4,109,000, effective March 1, 1986, pursuant to Gramm-Rudman-Hollings. The Commission has reduced staffing levels and associated expenses in fiscal year 1986 to accommodate this $4,109,000 reduction.

The Commission is in the midst of a vastly changing energy environment and is using two approaches to manage this change. First, we are adapting the regulatory framework to changing energy markets to ensure the public the continuation of an adequate and reliable supply of energy at the lowest reasonable rates; and second, we are improving the internal operations of the Commission to be more responsive and timely.

NATURAL GAS REGULATION

Over the past 2 years, the Commission has been confronted with an evolving competitive market in the commodity of natural gas. Most natural gas supplies, as a result of the Natural Gas Policy Act, are no longer subject to Federal regulation as to market entry, exit, and price. However, the integrated transportation network, which is monopolistic in some markets and competitive in others, is still generally subject to Federal regulation.

Accordingly, in October 1985, the Commission issued Order No. 436 which retains and revises utility-type regulation over the interstate transportation function, while allowing the commodity market for natural gas to continue to develop in a competitive fashion.

The Commission has also established a procedural schedule to receive comments on the Secretary of Energy's proposed revisions in the way old gas is regulated. In his proposal, the Secretary suggests that flowing old gas prices be set at a single level equal to the highest ceiling price available at the time. The Commission's schedule calls for initial comments by February 25, at which time more than 200 comments were received; reply comments by March 27, and a public conference on April 10 and 11.

The Commission has embarked on an ambitious natural gas program and will require $45.2 million in fiscal year 1987 to stay abreast of the rapidly changing conditions and reduce pending workload by more than 33 percent from fiscal year 1985.

HYDROPOWER REGULATION

Major changes have also occurred in the Commission's hydropower program. These changes, which are primarily the result of court decisions, have necessitated a complete reconsideration of many long-held principles underlying the program, especially in the area of environmental review.

In response to what amounted to a judicial redefinition of our role, the Commission, after much study and voluminous public comments, implemented on a trial basis a new procedure, the Cluster Impact Assessment Procedure, otherwise known as CIAP, for evaluating environmental impacts on river basins with multiple proposed hydropower projects. In April 1985, the Commission approved the commencement of the CIAP in the Salmon, Snohomish, and Owens River basins. We have completed the first two phases of each of these studies and are proceeding on schedule. We are also currently evaluating the effectiveness of this approach.

As we look at future planning for the hydropower program, the Commission will be faced with a growing workload due, in part, to legislation that has stimulated development as well as the issue of relicensing. We will need $29.4 million for this program in fiscal year 1987 to process our workload in an expeditious manner. We intend to pare the pending workload by approximately 15 percent.

OIL PIPELINE REGULATION

In the area of oil pipeline regulation, the Commission has adopted a new approach necessitated by the Court's remand of the Williams I opinion that will require a more lengthy and complex review process. This will result in more formal rate cases and in a projected doubling of pending workload in oil pipeline regulation by the end of fiscal year 1987. Accordingly, we will need $4,139,000 in this area.

ELECTRIC POWER REGULATION

The electric utility industry that the Commission regulates also is experiencing changes to which we are attempting to respond. Last year, we continued to pursue a generic approach to the rate of return issue in order to expedite cases. Also, we initiated a broad, two-phase notice of inquiry into the way we regulate that industry. Our concern is that regulation encourage, and not impede, the efficient generation, transmission, and distribution of electricity. The first phase addresses our regulation of coordination transactions and transmission service; the second phase addresses our regulation of requirements transactions.

Many complex issues affecting the electric utility industry will have to be addressed in fiscal year 1987, such as least cost supply, pricing, and the efficiency in the bulk power markets. We will need $20.4 million for this program so that we may adequately address and resolve these and other issues that are so vital to the future health of the industry and consumers.

MANAGEMENT IMPROVEMENTS

Now, I would like to turn to the management of the FERC itself. Last year, we were able to report that staff productivity increased by 20 percent. This past year we continued to improve our productivity by achieving an additional 7-percent increase and we have established a 5 percent average annual target for fiscal years 1986 and 1987. It is important to consider these numbers in light of the fact that private sector annual productivity improvement rates are in the neighborhood of 1 to 2 percent. Through these productivity gains we have been able to substantially reduce the number of backlogged cases while actually reducing the size of the staff over the past 3 years.

Productivity improvement is one factor which contributes to the efficient operation of the FERC. Another is the continued pursuit of administrative savings. This budget request includes a $1.8 million reduction in administrative costs which served to offset the cost of inflation and most of the costs of increased environmental studies.

FEES AND CHARGES

Another factor is increased revenues which, in effect, reduces the FERC's net cost to the taxpayers. In May 1985, the Commission sent to Congress increased fee and annual charges legislation which could result not only in a total offset to the FERC appropriation but, more important, contribute an additional $50 million annually to reducing the deficit.

I would also like to note that the U.S. Court of Appeals for the Tenth Circuit recently upheld certain Commission fees rules. These rules cover fees for gas producers and pipeline rates, fees applicable to the NGPA, and fees for general activities. The court affirmed the Commission's authority to impose and the manner in which the Commission established the fees.

EQUAL ACCESS TO JUSTICE ACT

Finally, there is an administrative matter arising under the Equal Access to Justice Act that I would like to bring to your attention. Two U.S. courts of appeals have awarded attorneys' fees and expenses to intervenors in two cases, *Washington Urban League* v. *FERC* and *Papago Tribal Utility Authority* v. *FERC*. However, sections 305 and 502 of our appropriations acts of fiscal year 1984, fiscal year 1985, and fiscal year 1986 prohibit the use of appropriated funds to pay the expenses of or otherwise compensate parties intervening in Commission proceedings. Therefore, we are seeking special permission to pay the two court awards from our appropriations. This payment problem may also arise in other proceedings that are currently pending before the courts.

SUMMARY

In summary, Mr. Chairman and members of the subcommittee, the Commission's goal is to bring order to a rapidly changing energy environment while contributing our fair share to meeting the deficit reduction targets of the administration and the Congress. The Commission's fiscal year 1987 budget request of $99.1 million is our commitment to this difficult task.

My staff and I are available to answer any questions you may have. Thank you, Mr. Chairman and members of the subcommittee.

[The statement follows:]

STATEMENT OF ANTHONY G. SOUSA

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

I appreciate this opportunity to discuss the Federal Energy Regulatory Commission (FERC) fiscal year 1987 budget request with you today. I am accompanied by Mr. William G. McDonald, the Commission's Executive Director, and by the Directors of the Commission's offices who will be available to assist me in answering your questions.

BUDGET OVERVIEW

The FERC's FY 1987 budget request, which meets the deficit reduction targets for the year under the Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm-Rudman-Hollings), is $99,079,000 and 1,659 FTE's. Of this, $78,754,000 would be offset by revenues from fees and charges. For FY 1986, the Commission received an appropriation (including transfer from DOE) of $98,852,000. So the 1987 budget request represents an increase of only $227,000 over FY 1986. However, our FY 1986 appropriation was reduced by $4,109,000, effective March 1, 1986, pursuant to "Gramm-Rudman-Hollings." The Commission has reduced staffing levels and associated expenses in FY 1986 to accommodate this $4,109,000 reduction.

MANAGING CHANGE IN THE REGULATORY ENVIRONMENT

During the last two years, the FERC has been involved in a vastly changing energy environment. Our objective has been to recognize the need for greater managerial and operational flexibility to deal with those changes in a way that comports with our statutory responsibilities. To that end, the Commission has focused on two approaches to managing change: first, adapting the regulatory framework to changing energy markets to ensure the public the continuation of adequate and reliable supplies of energy at the lowest reasonable rates; and second, improving the internal operations of the Commission to be more responsive and timely.

With respect to the regulatory framework, the FERC has recognized the changing environment in several recent actions. In the natural gas industry the single most important economic change has been that natural gas has become a separate and distinct energy commodity. Moreover, this commodity is increasingly viewed as distinct from natural gas transportation, storage, and other services. In addition, the pipeline industry has matured, and there is now an interconnected nationwide pipeline grid, involving both interstate and intrastate pipelines. The Commission is confronted with a generally competitive wellhead market for natural gas, most of which has been removed by Congress from Federal regulation as to market entry, exit, and price. However, we are also confronted with an interstate gas pipeline network, monopolistic in some markets, competitive in others, over which Congress has generally determined to retain utility-type regulation as to market entry, exit, and price.

Accordingly, the Commission, in its Order No. 436 issued in October 1985, is attempting to adjust the regulatory framework for natural gas in ways which retain and revise utility-type regulation over the interstate transportation function and allow the commodity market for natural gas to continue to develop in a competitive fashion. Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 50 Fed. Reg. 42,408 (Oct. 18, 1985) (Order No. 436), reh'g granted in part, 50 Fed. Reg. 52,217 (Dec. 23, 1985). In this way, regulation will allow competitive forces to operate in those areas where Congress has determined they will protect the public interest better than traditional utility-type regulation. On the other hand, we will retain traditional regulation in those areas where competitive forces have been found inadequate by the Congress.

Major changes have also occurred in the direction of the Commission's hydropower program. These changes, which are primarily the result of recent court decisions, have necessitated a reconsideration of many long-held principles underlying the program. The result has been to devote considerable effort to reviewing the existing licensing program and seeking ways to maintain an administrative approach that is smooth and efficient, yet legally sound and capable of withstanding judicial review.

Finally, the electric industry is in the midst of a transition that may result in significant structural change, especially in the generation sector, where competition is becoming more apparent. This competition is being stimulated by regional and Canadian power surpluses, the growth of cogeneration and small power production as a result of the Public Utility Regulatory Policies Act (PURPA), and interfuel competition. Since the FERC recognizes the need for regulatory predictability in the management of change, we are in the midst of re-examining our policies and strategies.

Last year, we initiated a broad, two-phase Notice of Inquiry concerning our jurisdictional regulation of the electric utility industry. We are concerned that our regulatory policies be appropriate to the changes taking place and have solicited comments on modifications to our policies which will better promote the public interest. The first phase of the Notice addresses our regulation of coordination transactions and transmission service. The second phase addresses our regulation of requirements transactions.

With respect to internal operations, the Commission has made considerable progress in managing its workload, both through standard managerial techniques as well as innovative uses of data processing. As a result, productivity has increased significantly over the past 2 years -- improving by more than 25 percent.

The Commission's FY 1987 budget reflects the evolving, external environment and improved internal operations as well as recent judicial interpretations of Commission responsibilities. In FY 1987, we will emphasize the management of the changing workload fashioned by external changes in the natural gas, hydropower, oil pipeline, and electric rate programs.

NATURAL GAS REGULATION

The FERC's FY 1987 budget request includes $45,174,000 to support the natural gas regulation program. This level reflects a decrease of $1,057,000 from our FY 1986 appropriation and highlights our efforts to limit spending where possible, while continuing to carry out our regulatory responsibilities efficiently and effectively. Pending natural gas workload is projected to be reduced at the end of FY 1987 by more than 35 percent from the FY 1985 level.

Under the Natural Gas Act (NGA), the FERC regulates the rates that interstate pipelines charge for the transportation and sale for resale of natural gas in interstate commerce. The Commission has a statutory responsibility to ensure that these rates are just and reasonable. The Commission also has a continuing regulatory responsibility over gas producers for approximately 50 percent of the total volume of gas produced. In the pipeline certificate area, the Commission reviews the construction and operation of new or expanded interstate pipeline facilities, and the abandonment of existing facilities, to determine whether such certification or abandonment is in the public interest.

The Commission also administers the wellhead pricing program for natural gas established by the Natural Gas Policy Act (NGPA) of 1978. When the NGPA was passed 8 years ago, it was described as being a comprehensive statute to govern future natural gas regulation. In adopting the NGPA, one of Congress' purposes was to eliminate the dual market that existed in interstate and intrastate sales of natural gas. This integration of the two markets was to be established by a scheme of gradual removal of federal price controls over natural gas at the wellhead (NGPA Title I and section 601(a)(1) and (b)(1)) and by the provision for more efficient transportation of natural gas (NGPA Title III and section 601(a)(2). See generally 15 U.S.C.§§ 3301-3432 (1982).

In short, the NGPA set in motion a gradual transition from a regulatory scheme in which interstate natural gas was subject to federal regulation from the wellhead to the city-gate to a scheme whereby wellhead and burner-tip prices are increasingly set by competitive market forces, even though interstate pipelines remain subject to regulation under the NGA.

Developments over the last 6 years have moved the natural gas industry significantly along in this transition. Since 1978, wellhead prices have risen, encouraging the development of new supplies of natural gas. At the same time, rising prices have provided incentives for users of gas to conserve, employ more fuel-efficient equipment, or even shift to alternate fuels, thereby cutting back on demand. After the sharp increases from 1978 to 1982, average wellhead prices stabilized in early 1983 and have remained relatively stable during the last 2 years.

One result of the rapid supply and demand changes under the NGPA was the appearance in 1982 of a substantial surplus of gas deliverability. This surplus translated into significant take-or-pay exposure for many interstate pipelines. As the price of natural gas in the "spot" or short-term markets fell below the price of gas in the long-term or "contract" market, demand for transportation services also tended to increase.

Equally significant have been changes that have occurred at the other end of the pipeline. Economic forces, in the form of declining oil prices and improvements in electricity-using technologies, have created strong and viable competition for end users in many markets previously dominated by natural gas. The combined effects of the above referred to changes in gas supplies and markets have been to increase competition at both ends of pipelines.

The competitive pressures on wellhead prices caused by partial wellhead deregulation continue to grow and have become even more evident since January 1, 1985, when additional wellhead prices were decontrolled. Demand for transportation services to reflect the growing competition at both wellhead and burner-tip can also be expected to increase. Greater customer access to alternate suppliers and transporters of gas is giving rise to innovative marketing strategies both by new entrants to the natural gas sales business as well as by traditional suppliers. Changes in the way risks are shared, more open access to transportation and concomitant changes in service agreements, and new gas purchase policies are reflections of and responses to fundamental changes which have already occurred in natural gas markets. These new ways of doing business in response to market forces have had important implications for the way the industry is regulated, and have made necessary proposals for timely regulatory adjustments.

On December 24, 1984, and January 19, 1985, the Commission issued Notices of Inquiry in Docket No. RM85-1-000 to gather information regarding an appropriate regulatory response to the changing conditions in the natural gas industry. Interstate Transportation of Gas for Others, 50 Fed. Reg. 114 (Jan. 2, 1985) (Phase I); and Natural Gas Pipeline Ratemaking, Risk, and Financial Implications After Partial Wellhead Decontrol, 50 Fed. Reg. 3801 (Jan. 28, 1985) (Phase II & III). On May 30, 1985, the Commission issued a Notice of Proposed Rulemaking (NOPR), Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, 50 Fed. Reg. 24,130 (June 7, 1985), and on October 9, 1985, the Commission issued Order No. 436 which promulgated a final rule. Id., 50 Fed. Reg. 42,408 (Oct. 18, 1985), reh'g granted in part, 50 Fed. Reg. 52,217 (Dec. 23, 1985). The NOPR included a "block billing" proposal which would have required that gas supplies subject to the maximum lawful prices of NGPA categories 104, 106(a) and 109 be billed separately from all other gas supplies. When the Commission issued Order No. 436, it renoticed the block billing proposal, requesting additional written comments, and held further hearings on December 11 and 12. The Commission is currently reviewing that record.

The overall goal of the final rule is to adjust the FERC regulation of interstate transportation of natural gas to ensure that consumers are provided choices to obtain natural gas at market responsive prices. To bring this about, the changes are designed to allow efficient market principles to operate as much as possible within the statutory guidelines of the NGPA and the NGA.

Specifically, there are three major points in the Commission's regulatory changes contained in the final rule. A simplified transportation program is established which requires nondiscriminatory access. In addition, as a condition to authorizing transportation of gas for others, pipelines must offer their customers the opportunity to reduce their contract demands. Customers exercising this option will be able to choose more freely among service options offered by pipelines.

Second, the regulations provide for rate consideration of negotiated "buyouts" of future take-or-pay obligations, under limited circumstances. The rule also provides for the expedited processing of producer abandonment applications.

Third, a new optional expedited certification procedure is offered to pipelines willing to assume the risk of new ventures. Because pipelines would knowingly assume the risks involved, competing applications may be granted, thereby providing customers additional choices in a more competitive market.

Since issuing Order No. 436, the Commission has expeditiously reviewed and resolved several implementation issues relating to gas transportation. For example, the Commission has issued clarification orders permitting certain gas transportation transactions to continue for a transitional period where parties have invested substantial sums in reliance on the availability of the old transportation program. In addition, in Order Nos. 436-A and 436-B, the Commission has postponed the "trigger" date for the CD adjustment options under Order No. 436 in order to provide sufficient time for the restructuring of commercial arrangements under the rule. Finally, the Commission has attempted to process individual transportation applications under NGA section 7 in a timely way, in order to permit pipelines to provide separate transportation services where they have chosen not to provide transportation under Order No. 436 at this time.

Several pipelines have taken steps to participate in the Order No. 436 transportation program. As of February 28, eleven pipelines have filed applications for blanket transportation certificates, while two others have filed settlements which claim to include transportation service pursuant to Order No. 436. We believe that an evolution toward flexible, nondiscriminatory transportation and greater competition in gas markets is occurring.

In addition to the Commission's regulatory initiatives, on November 19, 1985, the Secretary of Energy submitted a proposed rulemaking (RM86-3-000) to the Commission for consideration, Ceiling Prices; Old Gas Pricing Structure, 50 Fed. Reg. 48,540 (Nov. 25, 1985). The Secretary proposed that the Commission, under sections 104 and 106 of the NGPA establish just and reasonable prices for "flowing" old gas to eliminate vintaging and replace the current myriad of old gas ceiling prices with a single ceiling price (the ceiling price for post-1974 gas). The Secretary also requested that the Commission establish, in accordance with Section 107 of the NGPA, incentive prices for certain categories of old gas, in order to increase significantly the production of old gas and to encourage long-term investment in natural gas exploration, development, and production. Under DOE's proposal, a producer would receive a price higher than the current price only if a purchaser agreed to the higher price. The Secretary requested that the Commission take final action on this proposal by June 1, 1986.

On December 20, 1985, the Commission established a procedural schedule for addressing the proposed rulemaking issued by the Secretary, Ceiling Prices; Old Gas Pricing Structure, 50 Fed.

Reg. 52,935 (Dec. 27, 1985). As of February 25, 1986, the closing date for comment, more than 100 comments had been received. The Commission recently issued a notice requesting reply comments by March 27, 1986, and scheduled a public conference on April 10 and 11, 1986, Id., 51 Fed. Reg. ___, issued February 26, 1986.

In the area of natural gas, the Commission has embarked on an ambitious program and will require sufficient resources to ensure successful implementation. One of the most significant management initiatives the Commission has undertaken since its inception in 1977 is the development of an automated natural gas pipeline rate model. This model enables the Commission staff to analyze quickly, in summary form, the hundreds of pages of exhibits and schedules submitted with each rate filing by the 135 jurisdictional, interstate pipeline companies. Natural gas pipeline companies file rate and tariff change applications about every 15 to 18 months. During FY 1986 and FY 1987, approximately 200 new filings will be received. As the number of filings that enter the system grows, the staff will be able to perform automated comparisons of previous filings and industry-wide trend data. Eventually, this will lead to the submission of machine-readable rate filings of applicants, which should further enhance productivity.

In the pipeline certificate area the FERC is expecting additional applications relating to increased transportation activity and customer contract demand adjustments, as well as increases in formal cases due to protests to proposed revisions to existing gas service curtailment plans.

The producer program areas will experience some increases in filings because of increased abandonment activity resulting from the new rule in Order No. 436. More important, the Commission's activities in these program areas are expected to increase over the shorter term as we address the Secretary of Energy's proposed rulemaking on wellhead pricing.

HYDROPOWER LICENSING

The FERC budget request contains $29,343,000 to support the hydropower licensing program. This is an increase of $1,353,000 over the FY 1986 appropriation and is attributable in most part to expanded responsibilities for environmental review on a timely basis. With the resources requested, the Commission will complete 1,736 licensing workload items and 1,788 dam safety inspections. Pending workload will decline by 15 percent.

When Congress passed the Federal Water Power Act of 1920, which in 1935 became Part I of the Federal Power Act, the Nation's hydropower resources were largely undeveloped. The regulatory scheme established by Congress was designed to facilitate expeditious development of hydropower while at the same time protect Federal interests in navigation and reserved lands. The Commission received recommendations from fish and wildlife agencies pursuant to the Fish and Wildlife Coordination Act passed by Congress in 1934, but licensing authority was exercised solely by the Commission under the broad responsibilities conferred by Congress in the 1920 Act.

In the 1960's, Congress began to overlay environmental legislation on the licensing process. Some pieces of legislation, like NEPA, were broad and procedural in nature, but most, like the Wild and Scenic Rivers Act, the Endangered Species Act, and the Clean Water Act, focused narrowly on substantive issues.

In the late 1970's, Congress decided to encourage further development of hydropower, especially small hydropower, thereby setting in motion what has been called the "hydro-rush." Congress passed the Public Utility Regulatory Policies Act requiring utilities to purchase power at "avoided cost" rates from qualifying facilities, and further enhanced the economic feasibility of small hydropower by changing the tax code to permit energy and investment tax credits and accelerated depreciation of capital expenditures.

In 1984, three court decisions altered the direction of the Commission's hydropower program. The U.S. Supreme Court's decision in Escondido Mutual Water Co. v. La Jolla, ___U.S.___, 104 S.Ct. 2105 (1984), reh'g denied, ___U.S.___, 104 S.Ct. 3562 (1984), held that authority over hydropower development is not solely in the hands of the Commission, but rather is dispersed among several Federal agencies. In Tulalip Tribes of Washington v. FERC, 732 F.2d 1451 (9th Cir. 1984), the court overturned the Commission's "natural water feature" rule, thus limiting the sites that can qualify for an exemption from licensing. In Confederated Tribes and Bands of the Yakima Indian Nation v. FERC, 746 F.2d 466 (9th Cir. 1984), cert. denied, 105 S.Ct. 2358 (1985), the court limited the Commission's use of so-called "open-ended" conditions, which had been used to postpone resolution of certain types of project-related problems until sufficient data could be compiled to support a reasoned decision.

During the past year, the U.S. Court of Appeals for the D.C. Circuit issued a decision in Clark-Cowlitz Joint Operating Agency v. FERC, 775 F.2d 366 (D.C. Cir. 1985), reh'g granted en banc that reversed the Commission's opinion regarding municipal preference in a relicensing proceeding, and held that municipalities have preference over the original licensee of the project. On January 17, 1986, the court granted rehearing en banc and vacated its decision.

In addition, during 1985, the Commission implemented on a trial basis new procedures for evaluating the environmental impact of proposed hydropower projects. For the past 65 years the Commission has considered projects for licensing on a case-by-case basis. In January 1985, the Commission requested comments on its staff's proposal to evaluate the environmental impacts associated with "clustered" projects that may have significant potential for affecting common natural resources in a river basin, Procedures for Assessing Hydropower Projects Clustered in River Basins, 30 FERC ¶ 61,069 (Jan. 18, 1985). Approximately 150 comments were submitted. In April 1985, the Commission approved the staff's approach and directed the staff to apply, on a trial basis, the cluster impact assessment procedure in the basins of the Salmon, Snohomish, and Owens Rivers. Id., 31 FERC ¶ 61,095 (Apr. 24, 1985).

The hydropower program has grown dramatically in scope and importance over the past several years and the Commission has taken steps to improve its overall management. For example, the Commission recently instituted a generic issue tracking and monitoring system to analyze projects delayed beyond normal processing time.

On November 1, 1985, the Commission opened a new regional office in Portland, Oregon, and closed its Fort Worth office. This new office will respond to the growing interest in hydropower development in the Northwest. The Portland office will be responsible for inspecting operating projects, as well as those under construction in the states of Washington, Oregon, Idaho, Wyoming, Montana, and Alaska. In addition, this office will serve as a point of contact with other agencies including the Northwest Power Planning Council.

The Commission is also in the process of developing a modular license system. The modular license serves two purposes: (1) standardizing the format for the order that issues a license; and (2) establishing new procedures for preparing the order. We believe this new approach will reduce the workload for professional and support staff by shortening the length of time it takes to prepare and issue orders. This action will increase the number of cases decided. A second advantage to this method is that the standardized format will clarify the technical issues associated with issuance of a license.

With respect to the Dam Safety Inspection Program, the workload has increased significantly as a result of the large number of licenses issued for new capacity hydroelectric projects. For example, between FY 1981 and FY 1984, the number of construction inspections increased 103 percent. This rate of increase is leveling off, but the inspection workload is continuing to increase. In FY 1987 the Commission plans to complete 1,788 dam safety inspections.

As we look at future planning for this program, the Commission will be faced with a growing workload due in part to legislation that has stimulated development of hydropower resources. For instance, in the new capacity license area we received 48 applications in December, twice as many as received for all of FY 1979. For the first quarter of FY 1986, the Commission received 67 new capacity applications, which is approximately 35 percent of the number of applications we anticipate receiving for all of FY 1986.

OIL PIPELINE REGULATION

The Commission's request totals $4,139,000 in the oil pipeline regulation program, an increase of $357,000 from the FY 1986 appropriation. The Commission regulates oil pipeline companies engaged in interstate commerce in order to ensure just, reasonable, and nondiscriminatory tariffs. During FY 1987 it is projected that nearly 1,600 workload items will be completed. The additional funds requested are necessary to accomplish the increased formal rate activity as a result of the issuance of Commission Opinion 154-B, Williams Pipe Line Company, 31 FERC ¶ 61,377 (June 28, 1985), as modified by, 33 FERC ¶ 61,327 (Dec. 5, 1985).

Opinion 154-B provided for a new rate base methodology which requires a transition rate base for assets devoted to common carrier operations prior to the issue date of the opinion and a trended original cost rate base for assets devoted to common carrier operations after the issue date of the opinion. This approach replaces the valuation methodology established by the Interstate Commerce Commission. The new methodology requires a case-by-case determination that any requested rate change is just and reasonable. This new procedure will require a more lengthy and complex review process resulting in a projected doubling of pending workload in the oil pipeline program by the end of FY 1987.

In October 1985, the FERC approved a settlement resolving several longstanding disputes involving the Trans Alaska Pipeline System (TAPS). The settlement resolved a rate case dispute which began in 1977 and resulted in a record totaling more than 60,000 pages before the Commission.

The Commission also must review the Department of Energy's oil pricing Remedial Orders and Adjustment Request Denials. In Order Nos. 417 and 421 issued during FY 1985, responsibility for these activities was transferred from the Office of the General Counsel to the Office of the Administrative Law Judges. This transfer was made to expedite the processing of these items.

ELECTRIC POWER REGULATION

This budget request includes $20,423,000 for the electric power program. This is a decrease of about 2 percent or $426,000 from the FY 1986 level. Both the funding and staffing levels for this program are projected to remain at nearly the same level for all 3 years, FY 1985 through FY 1987. Under the FPA, the FERC regulates interstate transmission and wholesale sales of electricity by more than 200 investor-owned utilities. In the last 3 years, the Commission has initiated several actions that broadly affect the electric utility industry.

In the summer of 1983, the Commission changed its ratemaking treatment of construction work in progress (CWIP) in setting utility rates. Construction Work in Progress for Public Utilities; Inclusion of Costs in Rate Base, 48 Fed. Reg. 24,323 (June 1, 1983), reh'g granted in part, 48 Fed. Reg. 46,012 (Oct. 11, 1983). Under the new rule, the Commission began allowing rate filings to include up to 50 percent of CWIP in rate base. However, a few months ago, the U.S. Court of Appeals for the D.C. Circuit vacated and remanded the CWIP rule to the Commission, Mid-Tex Electric Cooperative, Inc. v. FERC, 773 F.2d 327 (D.C.

Cir. 1985). The Commission recently approved an interim rule that addresses the concerns of the court and seeks further comments on the anticompetitive effects of permitting CWIP in rate base.

The Commission also initiated an annual generic rate of return proceeding. Under the generic approach, the Commission established an initial benchmark rate of return for the industry of 14.46 percent. Although these benchmark rates of return will only be advisory for the first two annual proceedings, they will become presumptively applicable to all rate filings beginning with the third annual proceeding, meaning they will be binding unless the parties settle on a different rate of return, or unless the Commission finds the utility to be significantly more or less risky than the industry average.

This new generic procedure will enable the Commission to respond better to rapidly changing capital market conditions, and, for the first time, create a national forum for evaluating annually the financial condition of the entire electric utility industry. The benchmark for the most recent quarter was set at 13.66 percent for filings made from November 1985 through January 1986.

The prudence of construction costs, especially with respect to abandoned plants, is a very sensitive concern of the electric utility industry, its customers, and the Commission. As a general proposition, a utility may not recover costs that were not prudently incurred. Last year in New England Power Co., 31 FERC ¶ 61,047 (Apr. 11, 1985) (Opinion No. 231), we enunciated a prudence test for recovering construction costs of an abandoned plant. That test is whether the costs are ones which a reasonable utility would have made, in good faith, under the same circumstances, and at the relevant point in time.

Allocation of costs among participating utilities is another major issue. In Middle South Energy, Inc., 31 FERC ¶ 61,305 (June 13, 1985) (Opinion No. 234), reh'g denied, 32 FERC ¶ 61,425 (Sept. 26, 1985) (Grand Gulf), the Commission decided that the four operating companies of the Middle South Utilities System must share proportionately to their system demand all of the costs of the system's nuclear capacity, including the costs of Grand Gulf Unit No. 1. The Commission's Grand Gulf decision has been appealed; the court has established an expedited schedule with arguments set for March 24.

The Commission has taken another major step in the electric area in view of the many changes that have taken place in the industry. Last May, we initiated a broad Notice of Inquiry (NOI) into our regulation of the electric utility industry. Regulation of Electric Sales-for-Resale and Transmission Service, 50 Fed. Reg. 23,445 (June 4, 1985) (Phase I); and 50 Fed. Reg. 27,604 (July 4, 1985) (Phase II). Our concern is that regulation should encourage, and not impede, the efficient generation, transmission, and distribution of electricity.

The first phase of the NOI addresses our regulation of coordination transactions and transmission service. The second phase of the NOI addresses our regulation of requirements transactions. The main thrust of the NOI is pricing, largely because pricing is the primary focus of FERC's jurisdiction over wholesale electricity transactions.

A significant policy issue here is the relationship between risk and the benefits of coordination trade. Currently, the Commission allows benefits to be shared by the selling utility and the purchasing utility. Yet it is generally the selling utility and its customers who have borne the risk associated with that utility's investment in generating plant. The Commission has asked for comments on how the benefits of coordination transactions ought to be divided between the selling and purchasing utilities. A second important issue is how the revenues resulting from coordination sales should be distributed between shareholders and requirements customers.

Changes in Commission policy in both coordination sales and transmission services have been implemented on an experimental basis in the bulk power market experiment in the Southwest United States. What we now wish to examine, based on comments and hearings, is whether it would be appropriate to make these changes more generally available.

The second phase of the NOI, dealing with the pricing of requirements sales, focuses on whether the prices charged for requirements sales should vary by time of use and be based on marginal costs. The Commission believes that utility customers should be able to make sound investment decisions based on correct price signals for their energy consumption.

And finally there is the issue of risk. Specifically, who should bear the risk of utility operating and investment decisions? Any policy decision the Commission makes involves an implicit or explicit judgment about how risk should be shared between utility stockholders and customers. We will be examining risk issues in the NOI process.

The Commission has also taken steps to improve processing of formal electric rate cases. In Rule 717, the FERC established procedures for routine cases in which a presiding administrative law judge can reconsider aspects of his initial decision before the parties raise their objections to the Commission. 18 C.F.R. § 385.717 (1985). This is intended to speed-up the process by allowing the judges to correct errors identified by the parties. In conjunction with Rule 717, the Chief Administrative Law Judge also has placed about half of the designated Rule 717 cases under so-called "fast-track" schedules. The overall objective of the reconsideration procedures and the expedited scheduling is to process routine formal rate cases in 52 weeks or less.

Many complex issues affecting the electric utility industry will have to be addressed in FY 1987, such as least-cost supply options, pricing methods, and efficiency in the bulk power markets. The resolution of these questions is vital to the future health of the industry and the consumers that it serves.

The Commission will continue to process its existing workload in an expeditious and efficient manner. With the requested level of resources, action will be completed on 1,758 workload items, reducing the pending level by 11 percent from FY 1985.

MANAGEMENT IMPROVEMENTS

Last year the FERC was able to report that staff productivity had been increased by 20 percent in FY 1984. We are able to report this year that we have continued our productivity enhancement efforts by an additional 7 percent improvement in FY 1985. It is important to consider these numbers in light of the fact that private sector annual productivity improvement rates are in the neighborhood of 1 to 2 percent.

There are many factors that allow us to accomplish these high productivity increases; however, the major factor is that productivity improvement is a primary FERC goal. The Executive Director conducts monthly meetings in which more than 140 workload categories are reviewed. Workload problems are identified early in these management meetings so that corrective action can be taken quickly. Similarly, the Office of the General Counsel has in place a computerized agenda scheduling and litigation tracking system under which the Commission's advisory and trial staff can more efficiently schedule and process the annual caseload. Finally, productivity goals are written into Senior Executive Service performance plans. Improvement goals for FY 1986 and 1987 have been set at 5 percent each year.

FEES AND CHARGES

In addition to improving productivity, which effectively offsets our resource requirements, the FERC has undertaken measures to increase fees and annual charges in order to reduce FERC appropriations. Our revenue estimate for FY 1987 is $78.8 million resulting in an 80 percent offset to our appropriation. This is an increase in revenues of $29 million over our FY 1986 estimate. The bulk of this increase, $26.5 million, can be attributed to the inclusion of estimated revenue from new annual charges legislation such as was proposed in H.R. 3500. This legislation would allow the Commission to impose annual charges to jurisdictional natural gas pipelines, oil pipelines, and electric utilities. Under current law, the Commission collects annual charges from hydropower licensees only. I feel it is of utmost importance for new legislation to be passed to apply annual charges to the other energy regulatory programs in order to achieve equitable cost recovery.

There are also other initiatives which have been included in our revenue estimates for FY 1986 and FY 1987. One initiative resulted from a study of the FPA which states that the FERC is required to collect annual charges from hydropower licensees to cover the costs to the Federal Government of administering the act. To date, we have been collecting only the costs incurred by the Commission. Therefore, we have contacted several other Government agencies for their costs in administering this act. These costs will be included in developing the annual charges to hydropower licensees. This initiative could increase our revenue by $2.3 million.

Another initiative which we have factored in the FY 1987 estimates results from a proposed rulemaking which provides various methods of assessing Federal land use charges. Under the current regulation, the Commission is undercharging licensees because the land value and interest rate used in the computations are not up-to-date. We have included an additional $220,000 in our revenue estimates based on revising the assessment method.

In FY 1986 we issued new fee rules which are estimated to increase our revenue by $1.5 million in the gas and electric programs. In addition, new fees are also being considered in the hydropower and oil programs. One of the Commission's goals is to reduce energy regulatory costs to the U.S. Treasury through the collection of fees and annual charges. We have made strides in increasing revenue from $42.8 million in FY 1985 to an estimated $49.5 in FY 1986, a 16 percent increase, and we are continuing our efforts to reach this goal. But we will need new legislation to extend annual charges to the natural gas, oil pipeline, and electric power programs in order to meet our estimates of revenue for FY 1987 and beyond.

EQUAL ACCESS TO JUSTICE ACT

There is an administrative matter that I would like to call to the attention of the Committee. I am seeking special permission to pay attorneys' fees of $18,000 awarded by the United States Court of Appeals for the Third Circuit in Washington Urban League v. FERC, 743 F.2d 166 (3d Cir. 1984) and $17,083.75 awarded by the District of Columbia Circuit Court in Papago Tribal Utility Authority v. FERC, No. 83-1656 (D.C. Cir., Jan. 10, 1986). The courts awarded these fees to intervenors under the Equal Access to Justice Act, 28 U.S.C. § 2412(d)(1)(A) (1982) (EAJA).

Under EAJA, intervenors may receive attorneys' fees and expenses if they prevail against the Government and meet certain other standards. However, sections 305 and 502 of the Energy and Water Development Appropriation Acts of FY 1984, FY 1985, and FY 1986 prohibit the use of appropriated funds to pay the expenses of, or otherwise compensate, parties intervening in regulatory or adjudicatory proceedings funded in those Acts.

The Commission sought guidance from the General Accounting Office (GAO) after the Third Circuit made the initial award, which reflected a negotiated settlement amount, to the Washington Urban League. On September 19, 1985, we received a written response from Sharon S. Green, Chief, Adjudication Branch, GG/D Claims Group. The GAO letter concluded that neither agency funds covered by annual appropriations nor the permanent judgment appropriations in the U.S. Treasury is available to pay the League's award, and that the FERC either has to satisfy the award from available unrestricted funds or seek a special appropriation from Congress. At the same time, the letter also acknowledged that the Third Circuit's judgment is valid. It is noteworthy that while the GAO opinion is signed by a member of the staff, it relies on a recent formal opinion of the Comptroller General. 62 Comp. Gen. 692 (1983).

After receiving the GAO letter, the Commission determined that it does not have a source of unrestricted funds, even from prior years. Therefore, we seek Congressional permission to pay the Third Circuit's award in the Washington Urban League case, as well as the judgment of the District of Columbia Circuit in Papago, from our appropriation.

The issue of paying intervenors may also arise in other proceedings that are currently pending before the courts. Consequently, this may be a recurring problem, particularly in view of the 1985 EAJA amendment that requires awards to be paid from agency appropriations.

SUMMARY

The nature of a regulated enterprise has traditionally been one of constancy and predictability. However, it is increasingly evident that change is becoming the main focus for many regulated businesses.

What types of approaches may be successful in adapting regulation to these changes?

First, the demand for greater flexibility in price and service will put pressure on traditional judicial-type, case-by-case resolution of many regulatory issues. Therefore, increased reliance on more expeditious procedures may be necessary. Generic rules can be promulgated, allowing greater flexibility for parties to engage in transactions on a self-implementing basis. The current regulatory practices at the Federal level for dealing with bulk power purchases and natural gas transportation are already moving rapidly along this path.

The tight administrative control over businesses entering new markets and leaving old markets will continue to relax. Again, we may see increased use of generic rules within which companies have much greater flexibility to react to changing business conditions.

The need for regulatory changes may require reconsideration of legal precedents laid down in a very different business environment. In some instances, legislative change may also be required.

The fruits of change are uncertainty and opportunity. The task of the regulator is to restructure the regulatory framework to minimize the risks of uncertainty while allowing innovative utilities to seize the evolving opportunities.

Overall, this budget request of $99.1 million and 1,659 FTE's represents the Commission's commitment to addressing the complex issues of change while contributing its fair share in meeting the deficit reduction goals of the Administration and the Congress.

My staff and I are available to answer any questions you may have.

BIOGRAPHICAL SKETCH OF ANTHONY G. SOUSA

Anthony G. Sousa was born in Hong Kong. He is a United States citizen who received a Bachelor of Arts degree in 1945 from St. Luiz Gonzaga College in Macau, an island west of Hong Kong. He received a Bachelor of Laws degree in 1966 from Lincoln University Law School in San Francisco and a Master of Laws degree from the University of California School of Law in Berkeley in 1973.

Mr. Sousa is Acting Chairman of the Federal Energy Regulatory Commission, which has jurisdiction over wholesale electric rates, hydroelectric licensing, oil pipeline rates, natural gas pipeline rates and certification, and certain natural gas pricing. He was designated Acting Chairman by President Reagan effective February 1, 1986.

Mr. Sousa, a Republican, was first nominated as a Commissioner of the Federal Energy Regulatory Commission by President Reagan in 1981. He replaced former Commissioner George R. Hall. In November 1983, he was designated Vice Chairman of the Commission by former Chairman Raymond J. O'Connor. In 1985, Mr. Sousa was renominated as a Commissioner by President Reagan. His second term expires October 20, 1988.

Between 1973 and 1981, Mr. Sousa served as Vice President - General Counsel of the Hawaiian Telephone Company in Honolulu, a wholly-owned subsidiary of General Telephone & Electronics Corporation. From 1968 to 1973, Mr. Sousa was counsel, then senior counsel, and finally administrative law judge at the California Public Utilities Commission in San Francisco.

BIOGRAPHICAL SKETCH OF WILLIAM H. SATTERFIELD

On March 4, 1984, William H. Satterfield, formerly Deputy Solicitor of the Department of the Interior, was named General Counsel of the Federal Energy Regulatory Commission by Chairman Raymond J. O'Connor.

The Commission, located in Washington, D.C., is an independent regulatory agency which regulates the production and interstate transmission of natural gas; the construction, operation and abandonment of interstate gas and oil pipeline facilities; the transmission and sale of electricity in interstate commerce; the conditions, rates and charges for interconnection among electric utilities; and the issuance of licenses for non-federal hydroelectric energy projects.

As General Counsel, Satterfield serves as the Commission's chief legal advisor in all aspects of the agency's business, including the administrative hearing process, rulemakings, appellate litigation, enforcement investigations, and other general legal activities arising from the Commission's statutory responsibilities under the Natural Gas Act, Federal Power Act, Natural Gas Policy Act, Public Utility Regulatory Policies Act, Interstate Commerce Act, and the National Environmental Policy Act. He supervises 300 employees with a $20 million annual budget. Satterfield also represents the Commission before committees of Congress relative to pending legislation, appropriations and investigations.

Satterfield, 44, joined the Reagan Administration in Washington in early 1981 when he was appointed Associate Solicitor for the Division of General Law at Interior by former Secretary James G. Watt.

He was appointed Deputy Solicitor in May 1983, where he had the responsibility for providing legal counsel for the various programs, operations and activities of the Department of the Interior. In addition, he served as the Department's representative to the Administrative Conference of the United States and was a member of the United States' negotiating team on international boundary disputes with the Soviet Union. One of his major accomplishments at Interior was the development and installation of a $1 million computerized management information system which brought modern business management techniques to the operation of the Solicitor's Office.

Satterfield's background includes unusually varied experience in the private sector before his government appointments. From 1977-1981 he was corporate attorney for Harbert Construction Co. in Birmingham, Alabama; preceded by executive positions with South Central Bell Telephone Company in Birmingham and Louisville; and with Arthur Andersen & Company in Atlanta. He holds an industrial engineering degree from Georgia Tech, a master's in business administration from Indiana University, and a law degree from the Cumberland School of Law at Samford University in Birmingham. Satterfield is a member of the American, Alabama, Birmingham and Federal Energy Bar Associations and has been admitted to practice before the Alabama State Supreme Court, the Federal District Court of Alabama, the Fifth and Eleventh Circuit Courts of Appeals, and the U.S. Supreme Court.

Satterfield resides in Arlington, Virginia, with his wife, the former Carolyn M. Green of Birmingham, previously Associate Professor of History at Samford University, their six-year old son William, Jr., and three-year old daughter Caroline.

From 1959 to 1967, Mr. Sousa was the assistant manager for the western regional distribution division of Thomas J. Lipton, Inc., formerly known as the Lipton Tea Company in San Francisco.

Mr. Sousa is a member of the California State Bar Association, the Hawaii State Bar Association, and the International Bar Association. He is a member of the Executive Committee of the National Association of Regulatory Utility Commissioners and a former member of the Governing Council of the Public Utility Section of the American Bar Association. Mr. Sousa was admitted to practice before the Ninth Circuit Court of Appeals on January 9, 1969 and before the United States Supreme Court on October 30, 1978.

Mr. Sousa has also been active in the following organizations: president of the San Francisco Delta Nu Alpha Transportation Fraternity; member of the Chamber of Commerce of Hawaii; director of the Chinese Chamber of Commerce of Hawaii and the Portuguese Chamber of Commerce of Hawaii; director of the World Trade Association of San Francisco and the Mexican-American Political Association of northern California; and vice-chairman of the Cabrillo Portuguese Civic Club of the San Francisco Bay area.

Mr. Sousa is married to the former Elvira Dos Remedios. The couple has three children.

BIOGRAPHICAL SKETCH OF WILLIAM G. McDONALD

10/1977 - Present	Executive Director, Federal Energy Regulatory Commission
1975-1977	Director, Office of Management Information and Program Control, U.S. Nuclear Regulatory Commission
1972-1975	Director, Office of Plans and Schedules, Directorate of Regulation, U.S. Atomic Energy Commission
1970-1972	Office of Management and Budget
1968-1970	National Commission on the Causes and Prevention of Violence
1942-1968	U.S. Air Force - Colonel (Retired)

Education

BA - University of Tulsa
Graduate School - Universities of Georgetown and Columbia

INTERVENOR FEE PROCEEDINGS

Chairman HATFIELD. Thank you, Mr. Chairman.

Does the Senator from North Dakota have some questions he would like to ask?

Senator BURDICK. Yes, I have, Mr. Chairman.

Hearing your testimony, I was curious just about one thing. I have another matter I am very curious about, too, but the legal question here; you say that two U.S. courts of appeals have awarded attorneys' fees in two cases, and you list the cases. Then you go on to say, "However, sections 305 and 502 of our appropriations acts of fiscal year 1985 and fiscal year 1986 prohibit the use of appropriated funds to pay the expenses of or otherwise compensate intervenors."

What did the court say about that?

Mr. SOUSA. We haven't gone back to the court about that. The General Counsel said that we have——

Senator BURDICK. Did the court overrule the Congress?

Mr. SOUSA. We are asking the Congress to approve payment of these attorney fees but if approval is not received, we would have to tell the court that it has not been approved.

Would you like to add to that?

Mr. SATTERFIELD. Yes, sir.

The conclusion that we cannot provide the payment of the court-awarded fees results from our current statutory authority and was reached with the written advice of the General Accounting Office. GAO provided us with a letter in that regard, which we lodged with the Third Circuit. That put the Commission in a catch-22 situation, where we have no available funds under the current statutory language in our appropriations act to pay the awards.

The court said that was our problem—that we need to present that issue to the Congress for resolution. So that is why it is included in our appropriations request this year.

Senator BURDICK. That is quite a rabbit chasing his tail, I would say.

Mr. SATTERFIELD. Yes, sir.

BLOCK BILLING RULE

Senator BURDICK. Does a rabbit have a tail?

I will get to my main subject. The Federal Energy Regulatory Commission is considering a proposed rule change regarding "rolled-in gas pricing," which I am sure you are familiar with. Under the FERC proposal, numerous gas categories would be separated into two blocks. Block 1 would contain mostly lower priced old gas produced at the wellhead and would be available, first to all existing firm sales customers of the pipeline. Block 2 would contain all other gases. Up to now, the Great Plains coal gassification plant synthetic gas has been marketable because the pipeline companies purchasing the gas had been permitted by FERC to roll the price of Great Plains gas in with the price of lower cost gas from other sources and sell the product to their consumers at a rolled-in price.

In this method, the effect of the higher priced gas produced in the Great Plains plant have been spread over a large number of customers with a negligible effect on the price of gas sold to these customers.

On April 30, 1981, FERC ruled in favor of the use of rolled-in gas pricing for synthetic gas. This ruling was provided by the Commission in the *Great Plains Gassification Associates, et al.*, Opinion No. 119.

It was explicitly recognized in Opinion No. 119 that the project would not be constructed without the requested approvals. The Commission openly acknowledged that reliance upon its approval was both expected and justifiable. In addition, the Commission also acknowledged the pipelines' representations that they are relying on this authorization in executing gas purchase agreements.

In reliance upon Opinion No. 119, more than $2 billion has been spent in constructing the Great Plains plant. As a result of the authorization and assurances provided by FERC, the Great Plains partners have invested roughly $500 million, while the DOE has guaranteed approximately $1.5 billion in debt funds for construction of the plant. The Commission's notice of proposed rulemaking does not express any intention to disturb Opinion No. 119 or otherwise to affect the Great Plains project. In light of the wide ranging nature of the Commission's proposed new rules, however, I am concerned that the past authorizations and assurances of which they relied could unintentionally be modified or rescinded.

If the Commission's proposal were adopted without appropriate clarification, the new regulations could potentially be construed as adversely affecting the ability of the customer pipeline companies to recover payments to Great Plains in their rates on a rolled-in basis. In that event, the authorizations and assurances in Opinion No. 119 would be undermined and the viability of the project would be jeopardized.

Could you inform this committee of the status of the proposed block billing rule to date?

Mr. SOUSA. Senator Burdick, I think in reference to block billing, I should point out that that is the proposal which would have required the gas supplies subject to the maximum lawful prices of NGPA categories 104, 106, and 109 to be billed separately from all other gas supplies. In that part of our Order 436, we have renoticed the block billing proposal, and we have requested additional comments.

We are aware that the parties from North Dakota have filed many comments with us. We are also aware of our position regarding Opinion 119, and we have stated that we would consider these as special situations. We would be committed to preserving the position that we had in Opinion 119.

By that I mean that we would not disregard or ignore their position and their comments on Order 436.

Also, I should point out that there is another document that may have an impact on this. What I am saying, Senator, is that in renoticing block billing and deferring it, we have not prevented rolling-in at this point.

The other docket that may have some impact on them would be the docket on the proposal filed by DOE. Again, there, we have received close to 200 comments on the proposal, and we will hold a public conference on April 10 and 11, at which we could have more comments from North Dakota. After we have received all of these comments, we will review all of them very carefully. I am speaking for myself and I believe for the rest of the Commissioners, when I say that if we have made a decision on which people have relied. I don't believe that we would totally ignore that and make another decision without considering that people have relied on the Commission's original position.

Senator BURDICK [presiding]. What about new customers that didn't rely on that position? What happens to them?

Mr. SOUSA. Well, if that opinion in 119 is still there, then I am sure we would have to observe it even for new customers.

But I must point out, however, that if we do come out with a decision on the DOE proposal and that comes to a conclusion, we would have to apply that in the case of new applicants.

Senator BURDICK. In other words, this roll-in price is not really secure yet?

Mr. SOUSA. It hasn't been prohibited at this point because of our deferring block billing.

Senator BURDICK. But with this hearing you are going to have, what is the date of it?

Mr. SOUSA. April 10 and 11.

Senator BURDICK. Is it your intention to go into this matter of rolled-in prices at that time?

Mr. SOUSA. No. The conference that we will have on the 10th and 11th is to address the proposal by the Secretary of Energy to raise prices of old flowing gas, and that would have an impact on the Great Plains project.

Senator BURDICK. Yes.

Mr. SOUSA. So, I would urge the parties in North Dakota to appear at that hearing to the extent that they feel that it would have an impact on them and present their position there.

We have sent out notices to all parties for that conference on April 10 and 11.

Senator BURDICK. What you are telling me, then, is that the rolled-in price that we thought was firm is subject to modification?

Mr. SOUSA. It could be subject to modification, but it has not yet been modified.

Senator BURDICK. I understand that; yes.

Mr. SOUSA. But it would still be subject to a case-by-case review, in other words, granting exemptions where we have put out our position on 119 and people have relied on it.

Senator BURDICK. I understand that. But the rolled-in price decision that was mentioned a while ago isn't a firm decision, it can be changed?

Mr. SOUSA. People have said it shouldn't be changed because it was Congress' intention to allow rolled-in pricing. Then, there are others who have said that the Commission does have the authority to change that in the dockets.

Senator BURDICK. What I am getting at is, can I tell the people of North Dakota that they can be assured at this time that there won't be any change in the rolled-in price structure? Can I tell them that?

Mr. SOUSA. I don't believe you can say that at this time, Senator Burdick.

After completion of those dockets and after a decision by the Commission, then they would know where we stand on it.

Senator BURDICK. Then actually, the rolled-in price ruling is subject to review?

Mr. SOUSA. Subject to review in those two dockets, yes, sir.

Senator BURDICK. That will be in April?

Mr. SOUSA. April 10 and 11 on the DOE docket, Docket 86–3.

Senator BURDICK. You are not exactly a court, but I am not exactly a lawyer in this case, either. I strongly urge you to keep the rolled-in price for the good of the order out there.

Mr. SOUSA. We have had many comments to that effect, Senator.

ADDITIONAL PREPARED QUESTIONS FOR THE RECORD

Senator BURDICK. Thank you very much.

I understand that the chairman and other committee members have additional questions for you. They will be placed in the record at this point.

[The questions and answers follow:]

QUESTIONS SUBMITTED BY CHAIRMAN HATFIELD

Fee Revenue

Question: The budget projects a significant increase in the fees and charges collected by FERC - increasing from an actual level of $42.8 million in 1985 to an estimated level of $78.8 million in 1987, a 45 percent increase. Is any portion of the $78.8 million in anticipated revenues based upon enactment of authorizing legislation?

Answer: Of the $78.8 million estimated for revenues in FY 1987, $26.5 million is based on passage of legislation authorizing the Commission to collect annual charges totalling $15.6 million from natural gas pipelines, $8.9 million from electric utilities, and $2.0 million from oil pipelines.

Question: What is the status of legislation to increase FERC fees and revenues?

Answer: On May 8, 1985, former FERC Chairman Raymond O'Connor transmitted to Congress proposed legislation to authorize the Commission to reduce further the costs of energy regulation to taxpayers by recovering a greater share of those costs, in the form of annual charges and user fees.

Both the House and Senate Budget Committee reports accompanying the First Budget Resolution for FY 1986 included enactment of FERC user fees legislation among their assumptions supporting budget-cutting reconciliation instructions to the authorizing committees with oversight responsibility for FERC activities.

The House Energy and Commerce Committee concurred with the Budget Committee's recommendations and proposed a modified version of FERC's user fees proposal for inclusion in H.R. 3500, the House Budget Committee's omnibus reconciliation legislation reported on October 3, 1985. The Energy and Commerce Committee version would have granted FERC authority to assess and collect annual charges from interstate natural gas pipelines, interstate oil pipeline carriers, and public utilities at the beginning of FY 1986.

Alternative language proposed by the House Public Works and Transportation Committee would have prohibited the Commission from assessing or collecting any such charges from interstate natural gas pipelines or oil pipeline carriers, except for those charges assessed or collected pursuant to existing law. Both committees' versions were included in the House reconciliation bill, with resolution to await conference with the Senate.

The Senate Energy and Natural Resources Committee did not support FERC's proposed annual charges legislation and, consequently, no such legislation was included in the Senate's reconciliation bill, S. 1730.

Prior to adjournment of the First Session of the 99th Congress, Senate and House conferees on the omnibus reconciliation bill, H.R. 3128, which had been amended with the text of S. 1730 and H.R. 3550 by the Senate and House, respectively, agreed to drop FERC annual charges legislation from the conference report.

I understand that House Energy and Commerce Committee Chairman John Dingell has indicated that his committee would be taking a second look at FERC's proposal in 1986. In view of the continued congressional emphasis on the need for deficit reduction measures, I urge the Congress to reconsider the FERC proposal.

Question: Assuming enactment of the required legislation, how likely is it that $78.8 million will actually be collected during the fiscal year?

Answer: Provided the proposed legislation is passed during FY 1986, we should have no problem in realizing our estimated revenues. Even if the legislation is passed in the first quarter of FY 1987, this should allow sufficient time for the rulemaking process to be completed and we could still realize the full amount of the estimated revenues.

Question: What level of revenues do you estimate will actually be realized in 1987 and how much of the total is as the result of the new legislation?

Answer: If the proposed legislation is passed during FY 1986 or in the first quarter of FY 1987, we can expect to collect the full $78.8 million. If Congress does not act upon this proposed legislation, our estimate would be reduced by $26.5 million to $52.3 million.

Question: Mr. Chairman, nearly 50 percent of your appropriations for the current year for programs and activities are related to Natural Gas Regulation, while only 27 percent of the estimated revenue collection comes from the natural gas area. On the other hand, Hydropower Licensing Regulation provides 65 percent of all your revenues in 1986, while making up only 28 percent of your program. It appears that the hydro licensees are paying a disproportionate share of the program costs. How do you respond to this apparent imbalance?

Answer: The Federal Power Act (Part I) authorizes the Commission to collect annual charges to recover the full costs of the hydropower program. However, the Commission does not have the same authority in the natural gas, oil pipeline, or electric power programs. We have been forced to proceed with fees on individual product categories under the Independent Offices Appropriations Act of 1952. This is precisely why we are proposing legislation which will allow the Commission to collect annual charges in those programs.

Appropriation Language

Question: The budget appendix again this year proposes a change in FERC's appropriation language. Explain the difference between the OMB language and the language contained in the FY 1986 public law.

Answer: The Commission's major concern is to have our full appropriation available during the entire fiscal year. We are not sure the OMB language provides for this.

Question: Would there be any adverse impact on your operation if the language proposed in the FY 1987 budget becomes law?

Answer: We prefer the language in the FY 1986 public law because it has been in effect since FY 1984 and we have had no problems operating under it. Again, the key consideration from the Commission's standpoint is to have the full appropriation available during the entire fiscal year.

Cluster Impact Assessment

Question: Your statement indicates that the Commission approved the staff's proposal pertaining to cluster impact assessments in 3 river basins "On a trial basis." First, for the benefit of our record, please explain why these "cumulative" impacts on a river system should be assessed.

Answer: A decision as to whether the environmental review of multiple hydropower proposals in a limited geographic area should be performed by means of a cumulative study, instead of case by case, rests first and foremost on a determination of the facts. If the evidence supports the conclusion that a particular project does not contribute to any cumulative environmental impacts, then case-by-case review can go forward. If, on the other hand, the evidence indicates the clear potential that the project will contribute to cumulative impacts, then the Cluster Impact Analysis Procedure (CIAP) provides the Commission with a method for evaluating the environmental consequences of granting some or all of these concurrently pending applications.

Use of the CIAP to inform the Commission's decisionmaking with regard to hydropower licensing is consistent with the Commission's responsibilities under Section 10(a) of the Federal Power Act (FPA) and under the National Environmental Protection Act (NEPA). Section 10(a) of the FPA, 16 U.S.C. § 803(a), requires that any project licensed by the Commission shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway for beneficial public uses. The Supreme Court has held that Section 10(a) requires an "exploration of all issues relevant to the 'public interest,' including future power demand and supply, alternate sources of power, the public interest in preserving reaches of wild rivers and wilderness areas, the preservation of anadromous fish for commercial and recreational purposes, and the protection of wildlife." Udall v. Federal Power Commission, 387 U.S. 428, 444 (1967). Section 102(2)(c) of NEPA, 42 U.S.C. § 4332(2)(c), requires every major Federal action significantly affecting the quality of the human environment to be the subject of an environmental impact statement which shall include a study of alternatives to the proposed action. Thus, both Section 10(a) of the FPA, which sets forth a substantive licensing standard, and NEPA, essentially a procedural statute, require examination of the environmental consequences of a proposal, as well as alternatives to the proposal. However, measuring the extent and effect of any interrelationship between different projects, identifying the geographical area within which cumulative impacts may occur, and choosing a method for assessing those impacts are all activities that are entrusted to the expertise and discretion of the agency. See Kleppe v. Sierra Club, 427 U.S. 390, 410 (1976).

Question: How will these assessments be implemented through the various steps or phases?

Answer: The CIAP studies of the Snohomish, Owens, and Salmon River Basins include scoping, analysis, and documentation of the potential cumulative adverse impacts from multiple hydropower development. This work is divided into four phases: geographic sort, resource sort, multiple project assessment, and NEPA documentation.

In the geographic and resource sorts for each basin, a determination is made on which projects have the potential to cause cumulative adverse impacts on identified target resources. Projects can be released for processing during the first two phases of the analysis if they have no potential to cause cumulative adverse impacts on identified target resources in the basin. Such projects are subsequently reviewed on a case-by-case basis and integrated into the Commission's routine processing procedures.

The potential cumulative adverse impacts of the projects remaining within these basins would be analyzed in the multiple project assessment phase and presented in the NEPA documentation phase. The final EIS for each river basin would then document the significant cumulative adverse impacts on identified target resources and make recommendations to the Commission. Thus, the final environmental impact statement (EIS) of the CIAP represents a complete environmental record, aiding the Commission in making an informed decision on licensing.

Question: How long is the trial period?

Answer: The Commission has directed the staff to implement the CIAP in the Snohomish, Owens, and Salmon River Basins. Final EIS's analyzing significant cumulative impacts for these basins are scheduled in late 1986 or January of 1987.

Question: When will you propose to implement this as a permanent procedure?

Answer: The Commission has not applied this procedure to other river basins. In fact, the Commission is reviewing the CIAP process as well as other techniques for addressing the cumulative impact issue. No decision has been made as to the general applicability of this procedure or its application to any other particular river basin.

Question: Is it limited to only the 3 river basins or will you include other rivers in the trial period?

Answer: Since the Commission is reviewing the CIAP process and other analytical techniques, it has not initiated a CIAP in other basins. Although an announcement was made in November 1985 that directed FERC staff to proceed with a CIAP for the Ohio River Basin, former Chairman O'Connor subsequently decided to allow a new Chairman to review various budget items, to set priorities, and to initiate appropriate actions. Among these items was whether to direct the staff to proceed with the CIAP for the Ohio River Basin.

Question: When will the initial 3 be completed?

Answer: Thus far, in the Snohomish River Basin, the first three phases of the CIAP--geographic sort, resource sort and multiple project assessment--and the EIS scoping meetings have been completed. The draft EIS is being prepared with a target completion date of May 1986. The final EIS is targeted for October 1986.

For the Owens River Basin, the first three phases of the CIAP have also been completed. A draft EIS is being prepared with a target completion date of May 1986. The final EIS is targeted for September 1986.

In the Salmon River Basin, both the geographic and resource sort phases have been completed. The matrix technical sessions, part of the multiple project assessment phase, and the EIS scoping sessions were conducted during the week of January 27, 1986. A technical session on fisheries was also held on March 4, 1986. A draft EIS is targeted for August 1986. The final EIS is targeted for January 1987.

Question: How many other river systems will require this type of assessment?

Answer: To date, 39 river basins have been identified where more than one pending application exists and the issue of cumulative impacts has been raised. A list of the 39 river basins is provided for the record. To date, the Commission has not applied the CIAP to these basins. The Commission is reviewing the CIAP process, as well as other methods for addressing the cumulative impact issue.

The following table lists the basins where more than one pending application for license exists and the issue of cumulative impacts has been raised prior to or during the comment period for the CIAP (March 1985).

Table 1

River basin	State	Pending license applications
Alleghany	PA-NY	5
N.F. & M.F. American	CA	6
S. FK. American	CA	5
Arkansas	AR-OK-KS-MO-CO	3
Black (Also Moose)	NY	11
Clearwater	ID	4
Connecticut	CT-MA-NH-VT	29
Cowlitz 1/	WA	1
Deschutes	OR	8
Dungeness	WA	2
N. Fork Feather	CA	22
Green	KY	2
Hamma Hamma	WA	4
Henrys Fork	ID	2
Kentucky 2/	KY	1
Kings	CA	2
Lehigh	PA	3
Merrimack	MA-NH	17
Mono Lake	CA	4
Monongahela	PA-WV-MD	7
Muskingum 2/	OH	1
Nooksack	WA	12
Owens	CA	11
Ohio	IL-OH-IN-KY-WV	28
Penobscot	ME	3
Pit	CA	4
Rogue	OR	3
Salmon	ID	15
Upper San Joaquin	CA	3
Schuylkill	PA	2
Skagit	WA	15
Upper Snake	ID-WY	23
Snohomish	WA	5
Trinity	CA	2
Williamette	OR	5
Yakima	WA	4
Yuba	CA	6
Upper Miss. R. Mainstem	MO-IA-IL-WI-MN	3
Ohio River Mainstem	IN-IL-OH-KY-WV	7
Totals 39		290

1/ There is a pending exemption application in the Cowlitz River Basin that impacts non-fish and wildlife resources.

2/ The Kentucky River and Muskingum River are tributaries of the Ohio River Basin.

Question: Are there sufficient funds requested in FY 1987 to proceed with the cluster impact assessment?

Answer: Our budget includes $3.1 million for environmental studies. We believe that this is sufficient to cover our environmental needs in FY 1987.

Question: At last year's hearing I discussed FERC's schedule for considering the Deschutes River Basin in the cluster impact assessment process. What is the status of FERC's efforts in the Deschutes River Basin?

Answer: In July and December of 1983, the City of Bend, Oregon, and Deschutes County, Oregon, respectively passed ordinances and resolutions requiring the implementation of a comprehensive study of the Deschutes River Basin (River Study). The purpose of the River Study, which was originally scheduled to be completed by July 31, 1985, was to examine the individual and cumulative effects of all known and potential hydroelectric sites in the river basin. As originally envisioned, the River Study would include detailed mapping and instream flow studies and the development of a river system model. Apparently, the results of the River Study were to be used by Deschutes County in revising its land use plan to meet state comprehensive planning goals.

The term of the River Study was subsequently extended to February 1, 1986. Former FERC Chairman Raymond O'Connor, in response to written questions from Senator Hatfield pursuant to last year's subcommittee hearing, informed Senator Hatfield that it was unlikely that the Commission would act on licenses--but not exemptions--covered by the River Study prior to February 1, 1986.

It is my understanding that the final report on the River Study was printed the week of March 10, 1986, and that it, together with an amended land use plan, will be acted upon by the Deschutes County Board of Commissioners within 6 to 8 weeks. Apparently, once the amended land use plan is approved by the County, the Oregon State Land Conservation and Development Commission must approve it.

According to our Office of Hydropower Licensing (OHL), the scope of the River Study has narrowed considerably and much of the information that was to be developed under it, such as the instream flow studies, will not be developed. OHL has already received those portions of the River Study containing data of relevance to the Commission: a cost/benefit study and a tourism study. Consequently, OHL believes that it can proceed to process pending license applications on the Deschutes River Basin by relying on either its previous cumulative report for this basin (Environmental Review, Deschutes River Basin, September 26, 1984) or a revision to that document.

At the present time, there are five license applications for projects within the Deschutes River Basin: Project Nos. 3470, 3560, 3571, 5205, and 7270. However, the Section 401 water quality certificate required for Project No. 5205 has been denied. Also, there is pending a separate license application (Project No. 8810) for a transmission line for Project No. 3571. There are no pending exemption applications other than one for Project No. 7306 (described below).

On September 25, 1985, the Commission issued a license to Jack M. Fuls for Project No. 3473 to be located in the Deschutes River Basin pursuant to the Weeks Falls rationale [31 FERC ¶ 61,097 (1985)]. According to this rationale, the Commission can act on a license application individually, without waiting for a Cluster Impact Assessment Procedure to be undertaken, if the Commission and all parties that originally raised concerns about potential adverse cumulative impacts agree that the project has no potential to cause such impacts.

In the case of Project No. 3473, the Oregon Department of Fish and Wildlife withdrew its request that processing of the project be delayed until completion of the River Study after the City of Bend and Deschutes County indicated that the project was not subject to the ordinances establishing the River Study. Also, the City of Bend had issued a conditional use permit for the project prior to the Commission's issuance of a license. Finally, the Water Policy Board of the State of Oregon had issued an order approving a state license for the project before the Commission acted. A request for rehearing of that order by a former competitor for the site, wherein the Commission is requested to prepare a basin-wide comprehensive plan, is currently pending before the Commission.

It should also be noted that on April 6, 1984, the Commission issued an exemption to Arnold Irrigation District and Gregory Hydro Resources, Inc. for Project No. 7306, to be located in the Deschutes River Basin. The Commission's decision to issue this exemption without waiting for completion of the River Study was based on the fact that the appropriate fish and wildlife agencies had set terms and conditions to protect fish and wildlife resources and that there were no non-fish and wildlife issues of concern. This issuance was consistent with the Commission's decision in Olympus Energy Corporation, 26 FERC ¶ 61,407 (1984), wherein the Commission determined that the scheme of regulation of exemption from the licensing provisions of the FPA established by the Public Utility Regulatory Policies Act of 1978 and the Energy Security Act of 1980 allocates the exclusive responsibility and authority for protecting, as well as analyzing any adverse impacts on, fish and wildlife resources to the United States Fish and Wildlife Service and comparable state agencies empowered to impose mandatory terms and conditions on exemptions pursuant to Section 30(c) of the FPA. Consistent with this ruling, the Commission determined that the decision on whether to perform an assessment of potential cumulative impacts of exemptions on fish and wildlife resources rests with those agencies.

The City of Bend and Deschutes County filed for rehearing of the order issuing the exemption for Project No. 7306. The rehearing was denied by the Commission in an order issued March 6, 1985. Deschutes County subsequently appealed the case to the Ninth Circuit Court of Appeals. Because the Commission had not prepared an environmental assessment (EA) or environmental impact statement (EIS) for the project, the Commission asked the Ninth Circuit to remand the case to it. The Ninth Circuit granted the Commission's remand motion on January 17, 1986. Thus, the Commission staff will have to prepare either an EA or an EIS on this project.

Hydropower Regulation

Question: Comment on the trends in workload for hydropower over the last five years.

Answer: Three separate pieces of legislation have stimulated development of hydropower resources and added greater complexities to the completion of the hydropower workload. The Energy Security Act provides a tax credit incentive for hydropower developers who had an application before the Commission by December 31, 1985. However, to qualify for this tax credit, developers must have their projects operational by December 31, 1988. This means that the Commission must process all applications in a timely manner to allow developers enough time for construction. The Crude Oil Windfall Profit Tax Act of 1980 provides a tax credit to the developers whose applications have been received by December 31, 1985, and who have construction financing arranged by December 31, 1988. Finally, the Economic Recovery Act of 1981 provides developers with a more generous depreciation allowance commencing in 1985 and continuing for future years. The Commission has attempted to maximize its resource utilization under these circumstances by improving staff productivity and streamlining the licensing process.

From FY 1981 through FY 1985, the number of applications for license for major and minor new capacity and amendments totalled over 1,200. During the 5-year period, applications per year rose from a level of nearly 100 filed in FY 1981 to more than 300 in FY 1985.

Completions in licensing categories have also increased steadily between FY 1981 and FY 1985, from an average of 98 completions in fiscal years 1981 and 1982 to 234 in FY 1985. Of the 234 completions in FY 1985, 213 were for new capacity licenses, a major priority of the Commission's hydropower workload.

However, despite doubling our completions, the number of pending license applications has risen throughout this period. This increase reflects the complex nature of these applications. This complexity is, in part, a result of the Tulalip decision, which overturned the "natural water feature" rule and thus shifted workload from exemptions to new capacity. Also, the Escondido decision has required the Commission to include comments from other agencies for projects located within a Federal reservation. Because the processing of capacity applications is more labor-intensive than the processing of exemptions or preliminary permits, the pending workload has increased.

In addition, two separate court cases have added to the process of completing relicense applications. The Yakima decision requires the Commission to follow National Environmental Protection Act procedures for a relicense application. Further, in the Merwin Dam case, the court is presently deciding whether a "municipal preference" applies to a relicense case. Workload completions for the past five years have totalled 67 completions or an average of 13 per year.

The number of applications for exemption is also declining. Exemption applications reached a high of 475 in FY 1982, but have declined steadily since that time. This reduction in filings is attributable to a smaller inventory of potential project sites and to the Tulalip decision that has limited the types of small hydropower projects that can qualify for exemption from licensing. Completions in this category totalled 1,330 with pending workload reduced to 102 items by the end of FY 1985.

Question: Why do you need an increase of nearly $1.4 million in hydro licensing?

Answer: The major portion of the $1.4 million increase requested for the hydropower licensing program is $1.2 million for environmental requirements.

Question: Do you give priority to certain hydro projects in areas where there is a need for additional energy or where oil will be displaced?

Answer: There is no regional priority for processing hydropower applications. Generally, applications for projects proposing new hydropower capacity receive processing priority. Development of additional hydroelectric power generation facilities is encouraged under the Public Utility Regulatory Policies Act of 1978 (section 2) and the Energy Security Act of 1980 (section 402).

Question: Do you have the authority to rank projects according to benefit/cost ratios or some other criteria?

Answer: There is no specific statutory provision addressing the Commission's authority to rank projects by economic feasibility or any other criteria. Where there is a need for special action in order to further the provisions of the Federal Power Act, the Public Utility Regulatory Policies Act of 1978, or the Energy Security Act of 1980, the Commission attempts to act promptly.

Question: What is the Commission doing to adjust hydro licensing activities to the energy conditions in different regions of the country?

Answer: The Commission staff utilizes, inter alia, current load and resource projections prepared by recognized power agencies in various regions of the country to establish reasonable scenarios for determining whether a project is economically feasible or not.

Question: Provide the Committee with a breakdown by region of new capacity project licenses and expected processing dates.

Answer: The Commission has 45 applications for new capacity licenses pending in the Atlanta Region, 23 applications for new capacity licenses pending in the Chicago Region, 132 applications for new capacity licenses pending in the Portland Region, 148 applications for new capacity licenses in the New York Region, and 139 applications for new capacity licenses pending in the San Francisco Region. The processing time for these licenses ranges from one to three years depending on the complexity of the issue involved.

Electric Power Regulation

Question: For the record, provide a list of pending Federal rate reviews for the 5 PMAs with the dates filed and estimated approval dates.

Answer: There are eight PMA filings pending, six of which relate to rates of the Bonneville Power Administration filed under the Northwest Power Act. Three of the six relate to Bonneville's rates for nonfirm, nonregional power which were set for hearing under Section 7(k) of the Act. Two of these filings have gone through the complete hearing process and are ripe for Commission consideration, which is anticipated this spring. The third has gone through a hearing and is now awaiting an initial decision from the Administrative Law Judge. Review of Bonneville's other filings is difficult because, in order to limit revenue shortfall from decreasing sales to nonfirm and industrial customers, Bonneville has reopened its record of the filings currently before the Commission and intends to develop substitute rates or rate schedules for those already on file. Since the Commission's main charge under the Act is to assure that Bonneville's overall revenues and costs are in balance, any change to rates already on file and under review can be a matter of some concern. Barring unforeseen problems, I expect staff review to be completed and Bonneville's overall rates ready for Commission consideration in the spring.

Those filings not set for hearing are:

Docket No. PMA	Filing Date Project or System	Status
EF85-2011-001 BPA	5/1/85 System Power Rates	Review complicated by supplemental filings related to nonfirm and industrial power rates. Commission consideration is expected by late summer, 1986.
EF85-2021-001 BPA	5/1/85 Transmission Rates	
EF86-2041-000 BPA	2/11/86 Variable Industrial Rate (Request for Waiver of the Commission's Filing Requirements)	Commission consideration is expected by April 1, 1986.
EF86-3011-000 SEPA	10/1/85 Georgia-Alabama System	Staff review nearly completed. Commission conderation is expected by June 1, 1986.
EF86-4011-000 SWPA	10/2/85 System Power and Transmission Rates	Staff review nearly completed. Commission consideration is expected by July 1, 1986.

The status of the portions of Bonneville's rate filings which were set for hearing in accordance with Section 7(k) of the Northwest Power Act is:

Docket No.	Date of Filing	Current Status
EF81-2011-003 EF82-2011-003	6/29/81 8/16/82	Hearing complete, initial decision issued, briefs filed, and Commission consideration is expected by spring, 1986.
EF84-2011-006	10/3/83	Hearing is complete and briefs filed. Awaiting initial decision by Administrative Law Judge.

Question: Within the electric power regulation program, provide the estimated allocation of funds and staff in FY 85, FY 86, and FY 87 for each of the separate activities.

Answer: I would like to submit for the record a table providing the information requested.

Staff and Costs for Electric Power 1/
($000's)

Activity	FY 1985 Costs	FY 1985 Staff	FY 1986 Costs	FY 1986 Staff	FY 1987 Costs	FY 1987 Staff
Rate Filings	$3,027	49	$3,298	53	$3,241	53
Formal Investigations - Rate Level	6,920	112	6,286	101	6,604	108
Formal Investigations - Other	1,545	25	1,868	30	1,407	23
Corporate Applications	123	2	125	2	122	2
Interlocking Positions	247	4	248	4	245	4
Small Power Producer	927	15	871	14	855	14
Cogeneration	556	9	435	7	429	7
Exemptions	62	1	62	1	61	1
Federal Rate Review	679	11	623	10	610	10
Securities	123	2	187	3	184	3
Financial Audit	3,522	57	3,486	56	3,424	56
All Other Workload Categories	3,090	50	3,360	54	3,241	53
TOTAL	$20,821	337	$20,849	335	$20,423	334

1/ Includes direct and indirect FTE's and costs.

Question: Please provide a breakdown of funding and staff in FY 85, FY 86, and FY 87 for activities required by PURPA.

Answer: I would like to submit for the record a table providing the information requested.

PURPA Funding and Staff 1/
($000's)

PURPA Activity	FY 1985 Costs	FY 1985 Staff	FY 1986 Costs	FY 1986 Staff	FY 1987 Costs	FY 1987 Staff
Small Power Producer	$ 927	15	$ 871	14	$ 855	14
Cogeneration	556	9	435	7	429	7
Exemptions	62	1	62	1	61	1
UFEP Practices	308	5	311	5	306	5
Section 210 PURPA (Implementation)	62	1	62	1	61	1
TOTAL	$1,915	31	$1,741	28	$1,712	28

1/ Includes direct and indirect FTE's and costs.

Object Class Detail by Fiscal Year

Question: For the record, provide an object class breakdown in FY 85, FY 86, FY 87 for each program within the four major regulatory functions. Include in the breakdown for each program the funding and staff levels including FTE's level and the number on-board.

Answer: I would like to submit for the record the information in the attached tables.

DISTRIBUTION OF FY 1985 DIRECT AND SUPPORT FUNDING BY OBJECT CLASS AND PROGRAM

OBJECT CLASS	NAME OF ACTIVITY	PROD CERTS	PROD RATES	F/L CERTS	F/L RATES	W/H PRICING	NAT GAS REG	H/P LIC	D/S INSP	H/F REG	OIL P/L REG	E/P REG	TOTAL
	FTE	46	39	263	337	135	823	256	139	395	65	337	1,617
	ON-BOARD	46	39	262	336	135	818	255	133	393	65	336	1,612
	PERSONNEL COMPENSATION												
11.1	FULL-TIME PERMANENT	1,598	1,366	9,164	11,835	4,669	28,632	8,839	4,753	13,591	2,315	12,043	56,581
11.3	OTHER THAN F/T PERMANENT	29	26	164	223	77	519	145	65	210	39	228	996
11.5	OTHER PERS COMPENSATION	33	28	164	228	95	575	177	95	272	46	241	1,134
11.9	TOTAL PERS COMP	1,659	1,420	9,512	12,286	4,839	29,726	9,160	4,913	14,073	2,400	12,512	58,711
12.1	BENEFITS	181	155	1,042	1,048	530	3,259	1,003	539	1,542	263	1,373	6,404
13.0	BENEFITS FOR FORMER PERS	1	1	3	4	2	11	3	2	5	1	4	21
21.0	TRAVEL	7	12	86	590	169	864	149	371	520	41	498	1,920
22.0	TRANSPORTATION OF THINGS	1	1	5	6	3	16	5	3	8	1	6	31
23.1	STANDARD LEVEL USER CHARGES	174	148	1,008	1,290	517	3,140	979	534	1,513	251	1,269	6,190
23.2	OTHER RENTS	147	125	852	1,091	408	2,650	828	452	1,280	212	1,090	5,235
23.0	TOTAL RENTS	321	273	1,860	2,381	925	5,790	1,807	986	2,793	463	2,379	11,425
24.0	PRINTING	61	52	356	456	183	1,108	356	169	545	89	455	2,197
25.0	OTHER SERVICES	161	147	1,949	2,165	722	5,144	4,978	706	5,684	690	3,155	14,673
26.0	SUPPLIES AND MATERIALS	30	23	225	238	116	701	318	119	337	56	287	1,381
31.0	EQUIPMENT	21	18	113	153	61	372	116	63	179	30	151	732
42.0	INSUR CLAIMS & INDEMNITIES	0	0	0	1	0	1	0	0	0	0	1	2
43.0	INTEREST & DIVIDENDS	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	2,452	2,112	15,157	19,638	7,580	46,069	17,795	7,391	25,686	4,034	20,821	97,530

DISTRIBUTION OF FY 1986 DIRECT AND SUPPORT FUNDING BY OBJECT CLASS AND PROGRAM

OBJECT CLASS	NAME OF ACTIVITY	PROD CERTS	PROD RATES	P/L CERTS	P/L RATES	W/H PRICING	NAT CAP REG	H/F LIC	D/S INSP	H/F REG	OIL P/L REG	E/P REG	TOTAL
	FTE	48	47	266	228	119	808	290	161	451	65	335	1,659
	ON-BOARD	48	47	266	329	119	803	290	161	451	65	335	1,659
	PERSONNEL COMPENSATION												
11.1	FULL-TIME PERMANENT	1,668	1,641	9,156	11,313	4,014	27,798	10,099	5,367	15,466	2,202	11,778	57,244
11.3	OTHER THAN F/T PERMANENT	65	64	331	521	151	1,132	400	140	540	111	536	3,321
11.5	OTHER PERS. COMPENSATION	39	38	211	264	93	645	234	123	357	51	274	1,327
11.9	TOTAL PERS. COMP.	1,772	1,743	9,698	12,104	4,258	29,575	10,735	5,630	16,363	2,364	12,590	60,892
12.1	BENEFITS	216	213	1,162	1,475	513	3,505	1,313	636	1,996	288	1,535	7,413
13.0	BENEFITS FOR FORMER PERS	1	1	6	7	0	16	6	3	3	1	8	36
21.0	TRAVEL	9	11	104	508	217	670	139	371	510	47	545	1,072
22.0	TRANSPORTATION OF THINGS	3	3	18	23	8	55	23	10	33	4	24	116
23.1	STANDARD LEVEL USER CHARGES	161	159	962	1,215	421	2,917	1,212	555	1,767	229	1,316	6,239
23.3	OTHER RENTS	104	105	621	784	272	1,684	733	358	1,141	154	850	4,029
23.0	TOTAL RENTS	265	261	1,533	1,999	693	4,601	1,945	913	2,908	383	2,166	10,266
24.0	PRINTING	62	61	369	466	151	1,119	491	213	704	91	504	2,418
25.0	OTHER SERVICES	179	184	2,047	2,355	707	5,472	4,207	827	5,034	535	3,154	14,195
26.0	SUPPLIES AND MATERIALS	27	27	164	207	72	497	206	95	301	41	224	1,063
31.0	EQUIPMENT	12	12	72	91	31	218	90	41	101	18	96	465
42.0	INSUR. CLAIMS & INDEMNITIES	0	0	0	0	0	0	0	0	0	0	0	0
43.0	INTEREST & DIVIDENDS	0	0	0	1	0	1	1	0	1	0	1	3
	TOTAL	2,546	2,516	15,243	19,357	6,669	46,201	19,201	8,789	27,990	3,782	20,849	98,852

DISTRIBUTION OF FY 1987 DIRECT AND SUPPORT FUNDING BY OBJECT CLASS AND PROGRAM

OBJECT CLASS	NAME OF ACTIVITY	PROD CERTS	PROD RATES	P/L CERTS	P/L RATES	W/H PRICING	NAT GAS REG	H/F LIC	D/S INSP	H/F REG	OIL P/L REG	E/P REG	TOTAL
	FTE	45	47	262	338	110	802	293	160	453	70	334	1,659
	ON-BOARD	45	47	262	338	110	802	293	160	453	70	334	1,659
	PERSONNEL COMPENSATION												
11 1	FULL-TIME PERMANENT	1,550	1,635	8,931	11,627	3,700	27,441	10,244	5,338	15,562	2,451	11,690	57,164
11 3	OTHER THAN F/T PERMANENT	64	66	356	538	145	1,171	460	139	599	67	543	2,360
11 5	OTHER PERS COMPENSATION	37	36	210	275	87	647	242	124	366	57	278	1,348
11 9	TOTAL PERS COMP	1,651	1,737	9,499	12,440	3,932	29,259	10,946	5,601	16,547	2,575	12,511	60,892
12 1	BENEFITS	190	201	1,098	1,439	455	3,383	1,266	648	1,311	238	1,440	7,361
13 0	BENEFITS FOR FORMER PERS	1	0	3	4	1	9	4	2	6	1	4	35
21 0	TRAVEL	11	16	111	635	185	951	212	343	555	142	525	2,190
22 0	TRANSPORTATION OF THINGS	1	1	4	7	2	15	7	3	10	1	7	58
23 1	STANDARD LEVEL USER CHARGES	147	156	924	1,236	383	2,856	1,312	544	1,856	262	1,231	6,265
23 2	OTHER RENTS	95	101	604	800	248	1,848	846	352	1,200	169	834	4,051
23 0	TOTAL RENTS	242	257	1,538	2,036	631	4,704	2,160	896	3,056	431	2,125	10,316
24 0	PRINTING	56	59	356	472	146	1,089	529	207	736	100	493	2,916
25 0	OTHER SERVICES	144	154	1,945	2,243	617	5,103	5,319	774	6,093	531	3,004	14,731
26 0	SUPPLIES AND MATERIALS	25	26	159	213	65	484	223	92	315	44	220	1,363
31 0	EQUIPMENT	9	9	55	73	23	169	78	32	110	16	77	573
42 0	INSUR CLAIMS & INDEMNITIES	0	0	0	0	0	0	0	0	0	0	0	0
43 0	INTEREST & DIVIDENDS	0	0	0	1	0	1	1	0	1	0	1	5
	TOTAL	2,330	2,460	14,767	19,560	6,357	45,174	20,745	8,598	29,343	4,130	20,423	99,079

Consultant Services

Question: Provide the Committee with a list of the amount requested for consultant services and related activities for each program area and a description of the need for the services.

Answer: The Commission has estimated that the only requirement for consultant services in FY 1987 will be in the hydropower program area. These consultant services will provide the Commission with improved workload processing techniques in hydropower licensing activities.

QUESTIONS SUBMITTED BY SENATOR KASTEN

Block Billing

Question: Mr. Sousa, in the past year, FERC has come forth with several controversial regulatory proposals affecting gas price and supplies. Last May the Commission published a comprehensive set of regulations dealing with several issues -- including block billing and take-or-pay contracts.

In October, you issued a revised set of regulations that excluded the controversial "block billing issue," and suggested public comments on that topic. It appears that resolution of the block billing matter and related issues is being sidetracked by the Department of Energy's old gas decontrol proposal. There still is considerable concern, uncertainty might be the more appropriate word, about where FERC is going on the block billing issue. What is the status of the block billing regulations?

Answer: The Commission's block billing proposal was included as Part D of its Notice of Proposed Rulemaking on natural gas regulation (Docket No. RM85-1-000, Parts A-D) issued on May 30, 1985.

On October 9, 1985, the Commission issued a final rule in Part A concerning transportation, Part B concerning take-or-pay, and Part C concerning optional expedited certificates. In addition, the Commission proposed revisions to Part D concerning the block billing procedure and requested supplemental comments on the revised proposal by November 18, 1985.

The Commission has received nearly 200 written comments in response to its request. Additionally, the Commission held a public hearing on the block billing procedure on December 11 and 12, 1985. We are now reviewing the comments and hearing record but, to date, have taken no further action on Part D.

Question: When does FERC intend to publish new regulations on the issue?

Answer: As suggested in the preface to your question, resolution of FERC's block billing proposal may be interrelated with the Department of Energy's rulemaking proposal (Docket No. RM86-3-000) that FERC eliminate vintaging and establish a single maximum lawful price for flowing old gas that is equal to the highest ceiling price currently applicable to price-controlled gas. In requesting public comments on the DOE proposal, the Commission asked commenters to address the interrelationship with block billing. The Commission also requested comments on whether the two proposals are mutually exclusive or whether they could be merged.

Comments in response to DOE's proposal were due on February 25, 1986. Reply comments are due on March 25, 1986, and a public conference will be held at the Commission's Washington, D.C., headquarters on April 10 and 11, 1986. While no specific timetable has been established for action on the proposed block billing rule, the Secretary of Energy has recommended final action on the DOE proposal by June 1, 1986.

The Commission will determine a reasonable date for action in light of the record developed in each proceeding. After it has reviewed all of the comments filed in response to the two proposals, the Commission will be able to choose how best to proceed with both of them.

Question: Mr. Chairman, can you provide for the record an analysis of how the proposed changes in billing could affect energy-consuming states?

Answer: In its request for supplemental comments on its block billing proposal, the Commission stated that its analysis indicated that block billing would not adversely affect the supply of natural gas. The Commission did, however, request additional comments on how block billing would affect the supply and price of natural gas. The Commission received many comments on these issues in addition to several studies of how gas supplies would be affected by block billing. These comments are still being reviewed by the Commission.

QUESTIONS SUBMITTED BY SENATOR DOMENICI

FERC Fees

Question: Commissioner, I understand that you propose to increase fees that you assess on companies you regulate. Can you provide this Committee with information on current fee schedules, the receipts these fees generate by category and how these will increase under your proposal?

Answer: The FY 1987 revenue estimate includes passage of the new annual charges legislation which would provide the Commission with authority to collect annual charges in the natural gas pipeline, oil pipeline, and electric power areas. This proposal, if approved, would result in an increase of $26.5 million. The table below indicates the estimated revenue by program and the attached schedule provides the current fees.

Estimates of Fees and Charges for FY 1986 and FY 1987
($000's)

Program	FY 1986	FY 1987
Fee Revenue:		
Pipeline Certificates	$ 7,460	$ 7,293
Pipeline Rates	2,697	2,444
Producer Certificates	879	905
Producer Rates	630	690
Wellhead Pricing	1,458	1,409
Oil Pipeline	288	319
Electric Power	3,805	3,742
Subtotal	$17,217	$16,802
Annual Charges Revenue:		
Natural Gas*	-	$15,544
Oil Pipeline*	-	2,023
Electric Power*	-	8,909
Hydropower	$32,253	35,476
Subtotal	$32,253	$61,952
Total Revenue	$49,470	$78,754

*Based on passage of new legislation.

Federal Energy Regulatory Commission
Schedule of Filing Fees
March 25, 1986

Fees Applicable to Producer Matters Under the Natural Gas Act (NGA), RM82-25-000

1. Review of Application for a Blanket Certificate for a Small Producer, $ 600
2. Application for Large Producer Certificate of Public Convenience and Necessity, $2,800
3. Change in Producer Rate Schedule, $ 400

Fees Applicable to Natural Gas Pipeline Rate Matters, RM83-2-000

1. Tariff Filings for General Changes in Rates and for Changes other than Rates, $3,400
2. Tariff Filings - Tracking, $4,000

Fees Applicable to the Natural Gas Policy Act, RM82-30-000

1. Staff Adjustments, $3,200
2. Jurisdictional Agency Determinations, $ 25
3. Petitions for Rate Approval Pursuant to Section 284.123(b)(2), $2,600
4. Initial or Extension Reports for Title III Transactions, $ 200
5. Interpretations of the NGPA by the Office of the General Counsel, $ 400

Fees Applicable to General Activities, RM82-35-000

1. Petitions for Issuance of Declaratory Orders (except under Part I of the Federal Power Act), $1,700
2. Review of Department of Energy Denial of Adjustment,

Amount in Controversy		Fee
$ 0 - 9,999	=	$ 100
$10,000 - 29,999	=	$ 600
$30,000 - above	=	$4,900

3. Review of Department of Energy Remedial Order,

Amount in Controversy		Fee
$ 0 - 9,999	=	$ 100
$10,000 - 29,999	=	$ 600
$30,000 - above	=	$4,600

4. Requests for Written Interpretations by the Office of the Chief Accountant, $ 100

Fees Applicable to Natural Gas Pipelines, RM82-31-000

1. Pipeline Certificates (applications for authorization under NGA, Section 311(a); and application for declaration of Hinshaw exemption under NGA, Section 1(c), $12,100

2. Curtailment Filings, $ 5,200

3. Request under Blanket Certificate, $ 1,400

Fees Applicable to Electric Utilities, Cogenerators and Small Producers, RM82-38-000

1. Rate Schedule Filings with no Rate Impact or a Decrease, $ 1,100

2. Rate Schedule Filings with Rate Impact, but not Supported by Period II, $ 3,100

3. Rate Schedule Filings Involving Rate Increases, and Supported by Period II, $ 8,900

4. Certification of Qualifying Status, $ 1,400

5. Extension of Equipment Test Period Filings, $ 2,400

6. Authorization to Issue Equity or Long-Term Debt Securities Competitively or to Issue Short-Term Debt Securities, $ 1,300

7. Authorization for the Negotiated Placement Securities or Authorization to Assume an Obligation or Liability as a Guarantor, $ 3,400

8. Review of Corporate Application Involving One or More Jurisdictional Utilities Under Section 203 of the FPA, $ 4,400

9. Authorization to Hold Interlocking Positions, $ 1,700

Question: Of the increase in fee receipts you propose to collect in FY 1987, how much of these receipts will require legislation and how much can you collect from administrative changes?

Answer: As noted above, of the $78.8 million revenue estimate, $26.5 million is based on the passage of new annual charges legislation. The remaining $52.3 million is based on a continuance of the fees and annual charges authorized for the FY 1986 collections.

Question: What is the impact of your current fees on electric utility, natural gas, and other individual consumers? How will your proposed increases affect consumer's electric rates, natural gas prices, and other prices?

Answer: The impact of current fees as well as the proposed increase on the consumers appears to be minimal since the industry's costs are distributed across its total customer population, industrial and residential. For example, in the natural gas area, if the charges were passed on just to residential customers the average annual bill would increase by 24 cents. In the electric area bills would increase by 30 cents. In addition, companies may choose to absorb the annual charges due to the evolving competitive environment.

Question: Please explain the rationale for charging customers for regulation.

Answer: User fees, as opposed to funding from general revenues collected from all taxpayers, are a more equitable approach to the financing of Government regulation.

The Commission has explicit authority to impose annual charges on hydropower companies under section 10(e) of the Federal Power Act. Additional fees and charges are imposed on natural gas companies, electric utilities, and oil pipelines under the general authority provided by the Independent Offices Appropriations Act of 1952 (IOAA). Title V of the IOAA states the sense of Congress that regulatory licenses, privileges or other authority should be self-sustaining to the extent possible, and, to that end, empowers agencies to collect fees and charges.

On March 10, 1986, the U.S. Court of Appeals for the Tenth Circuit upheld certain Commission fees rules under the IOAA. These rules cover fees for gas producers and pipeline rates, fees applicable to the Natural Gas Policy Act, and fees for general activities. The court affirmed the Commission's authority to impose such fees and the manner in which the Commission established the fees. A copy of the court's decision is provided for the record.

PUBLISH

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United States Court of Appeals
Tenth Circuit
MAR 10 1986
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Clerk

UNITED STATES COURT OF APPEALS
FOR THE TENTH CIRCUIT

PHILLIPS PETROLEUM COMPANY,
PHILLIPS OIL COMPANY,
TRANSCONTINENTAL GAS PIPE LINE
CORPORATION, INTERSTATE NATURAL
GAS ASSOCIATION OF AMERICA,

Petitioners

v.

FEDERAL ENERGY REGULATORY
COMMISSION,

Respondent

CONOCO, INC.,

Intervenor.

Nos. 84-1846, 84-2267,
84-2270, 84-2786,
84-2787, 85-1396,
85-1397, 85-1398, and
85-1399

PETITIONS FOR REVIEW OF AN ORDER OF THE FEDERAL ENERGY REGULATORY COMMISSION

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Before **BARRETT** and **MOORE**, Circuit Judges, and **THEIS**,* District Judge.

BARRETT, Circuit Judge.

This case involves consolidated petitions to review four rules promulgated by the Federal Energy Regulatory Commission (FERC or Commission). The rules establish fees pursuant to the Independent Offices Appropriations Act (IOAA), 31 U.S.C. § 4830, recodified, 31 U.S.C. § 9701, which authorizes agencies to collect fees for services provided to identifiable beneficiaries and thereby make agencies "self-sustaining to the extent possible." These rules are FERC orders 360, 361, 394, and 395.

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*The Honorable Frank G. Theis, United States District Judge for the District of Kansas, sitting by designation.

FERC Order 360

First, we are asked to review FERC order 360, "Fees Applicable to Producer Matters Under the Natural Gas Act," accompanied by order 360-A, "Order Denying Rehearing and Clarifying the Final Rule," issued February 6, 1984, and April 20, 1984, respectively. A petition to review was filed in this court by Phillips Petroleum Company and Phillips Oil Company (Phillips) on June 18, 1984.

FERC order 360 establishes fees for the services and benefits the Commission provides to producers under the Natural Gas Act (NGA), 15 U.S.C. §§ 717-717w. According to the Commission, the rule is authorized by the IOAA. Specifically, under order 360 the Commission established the following fee schedule for services and benefits provided to producers under the NGA:

> (1) $800 for Commission review of applications for blanket certificates for small producers under section 7(c) of the NGA, filed in accordance with 18 C.F.R. § 157.40(b);
>
> (2) $1600 for Commission review of applications by producers for certificates of public convenience or necessity under § 7(c) of the NGA filed in accordance with 18 C.F.R. part 157;
>
> (3) $300 for a Commission review of changes in producer rates schedules under section 4 of the NGA, filed in accordance with 18 C.F.R. § 154.94.

FERC Order 361

Second, we are asked to review FERC order 361, "Fees Applicable to Natural Gas Pipeline Rate Matters," accompanied by order 361-A, "Order Denying Rehearing," issued February 6, 1984, and April 20, 1984, respectively. Transcontinental Gas Pipeline Corporation (Transco) filed its petition to review on June 19, 1984, in the United States Court of Appeals for the Fifth Circuit. Interstate Natural Gas Association of America (INGAA) filed its petition to review these orders in the United States Court of Appeals for the District of Columbia Circuit on June 19, 1984. The Transco and INGAA appeals were transferred to this court pursuant to 28 U.S.C. § 2112(a) and consolidated with the petition to review FERC orders 360 and 360-A filed by Phillips on June 18, 1984.

FERC order 361 establishes fees for services and benefits provided to natural gas pipeline owners under the NGA and related authorities. The Commission also maintains this rule is authorized under the IOAA and established the following fees for pipeline rate matters:

> (1) $2000 for Commission review of pipeline tariff filings for general changes in rates and for changes other than rates under section 4 or section 5 of the NGA, filed in accordance with 18 C.F.R. § 154.63;
>
> (2) $2300 for Commission review of pipeline tariff filings that tract certain changes and costs under section 4 and section 5 of the NGA, filed in accordance with the 18 C.F.R. § 154.38 or pursuant to approved tariff provisions, orders of the Commission or settlement agreements with the Commission;
>
> (3) direct billings for Commission review of petitions seeking advance Commission approval of rate treatment of research, development, and demonstration of expenditures filed in accordance with 18 C.F.R. § 154.38(d)(5).

FERC Order 394

Third, we are asked to review FERC order 394, "Fees Applicable to the Natural Gas Policy Act," accompanied by "Order Denying Rehearing," issued August 31, 1984, and October 31, 1984, respectively. The Phillips petition to review order 394 was filed in this court on December 27, 1984. INGAA's and Transco's petitions were filed in the United States Court of Appeals for the District of Columbia Circuit on December 28, 1984 and were transferred to this court pursuant to 28 U.S.C. § 2112(a).

FERC order 394 establishes fees for services and benefits provided under the Natural Gas Policy Act (NGPA), 15 U.S.C. §§ 3301-3432. Using the basic methodology for establishing fees with respect to services and benefits under orders 360 and 361, the Commission established the following fees under the IOAA:

> (1) $6000 to apply for adjustments under section 502(c) of the NGPA, including exemptions from incremental pricing under section 206(d);
>
> (2) $25 for Commission review of a jurisdictional agency determination;

(3) $2000 to petition for approval for rates and charges for transportation of natural gas under 18 C.F.R. § 284.123(b)(2);

(4) $800 for initial or extension reports filed in accordance with 18 C.F.R. §§ 284.106, 284.126, 284.148, and 284.163 for transactions authorized under Title 3 of the NGPA;

(5) $1200 for requests for interpretation of the NGPA by the office of the General Counsel.

FERC Order 395

Fourth, we are asked to review FERC order 395, "General Activities Fees Rule," accompanied by "Order Denying Rehearing and Making Technical Corrections," issued on December 15, 1982, and October 31, 1984, respectively. On December 27, 1984, Phillips petitioned this court to review those orders and on December 28, 1984, INGAA and Transco individually petitioned the United States Court of Appeals for the District of Columbia Circuit to review the same orders. The petitions for review filed by INGAA and Transco were transferred to this court and consolidated with the Phillips appeal pursuant to 28 U.S.C. § 2112(a).

FERC order 395 establishes fees pursuant to the IOAA applicable to "general activities" of the Commission. The methodology followed in promulgating this rule was the same as in orders 360, 361, and 394. The initial fees, subject to subsequent annual adjustments, are as follows:

(1) $4900 for a petition for issuance of a declaratory order other that one solely concerned with matters arising under Part I of the Federal Power Act;

(2) $100 for requests for interpretation from the Office of Chief Accountants;

(3) $3700 for a petition for review of a Department of Energy (DOE) denial of adjustment if the amount in controversy exceeds $30,000; $600 of the amount in controversy is $10,000 up to and including $29,999; and $100 if the amount in controversy is $0 up to and including $9,999;

(4) $2900 for review of DOE remedial order if the amount in controversy exceeds $30,000; $600 if the amount in controversy is $10,000, up to and including $20,999; and $100 if the amount in controversy is $0 up to and including $9,999; and

(5) $5.60 per quarter hour for professional employees, and $2.40 per quarter hour for clerical

employees for search time performed while responding to Freedom of Information Act requests.

This court's jurisdiction to consider these petitions for review arises under section § 717r(b) of the NGA, section 3416 of the NGPA, Rule 15 of the Federal Rules of Appellate Procedure and 28 U.S.C. § 2112.

The issues raised in the petitions for review can be summarized as follows: (1) whether FERC correctly held that it had the legal authority under the IOAA to establish fees for various services it performs under the NGA and the NGPA; and (2) whether the Commission's procedures in establishing the fees constitute a lawful exercise of the Commission's authority.

I. SCOPE OF REVIEW

The scope of our review of agency actions is generally defined by section 706 of the Administrative Procedure Act (APA). 5 U.S.C. § 706. The scope of review under section 706 depends upon (1) whether the agency action is an adjudication or a formal rulemaking, in which case the standard of review is the substantial evidence standard, or (2) whether the agency action is an informal rulemaking, in which case the standard to be applied is the arbitrary and capricious standard. Compare 5 U.S.C. § 706(2)(A) and (E).

The Supreme Court has held that the APA establishes the maximum procedural requirements which the courts may impose on agencies. While additional procedural requirements may be imposed by Congress or an agency, reviewing courts are generally not free to impose them. Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519 (1978). Thus, the scope of our review is governed by the APA's standards unless we find supplementary authority to the contrary.

There is nothing in the NGA, the NGPA, or the IOAA to lead us to conclude that in promulgating these rules the Commission engaged in anything other than an informal rulemaking procedure. An "informal rule" is one promulgated pursuant to section 553 of the APA. Motor Vehicle Manufacturers Ass'n v. State Farm, 463 U.S. 29, 41 (1983). Whereas none of these Acts define the scope of our review, "The Agency's action in promulgating such [rules] therefore may be set aside if found to be 'arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.' 5 U.S.C. § 706(2)(A)." Id. Contrary to the position advanced by some of the petitioners, the "substantial evidence" standard is not appropriate in reviewing informal rulemaking proceedings under the APA. Western Union Telegraph Co. v. FCC, 665 F.2d 1112, 1148 (D.C. Cir. 1981).

We should also note that our review of these FERC orders involves at least one question of law: the Commission's legal authority to promulgate these rules. Section 706 of the APA requires that, "[t]o the extent necessary for decision and when presented, the reviewing court shall decide all relevant questions of law." 5 U.S.C. § 706. While most courts accord some deference to an agency's determination of legal questions, the APA appears to require a de novo review of questions of law. Office of Communication of the United Church of Christ v. FCC, 707 F.2d 1413 (D.C. Cir. 1983).

II. STATUTORY AUTHORITY

In orders 360, 361, 394, and 395, the Commission relies upon the IOAA to establish fees for services and benefits it provides under the NGA or the NGPA. (R., Vol. I, p. 2; R., Vol. II, p. 1; R., Vol. III, p. 1; R., Vol. IV, p. 2.) The IOAA provides in part:

> [A]ny work, service publication, report, document, benefit, privilege, authority, use, franchise, license, permit, certificate, registration or similar thing of value or utility performed, furnished, provided, granted, prepared, or issued by any Federal agency ... to or for any person ... shall be self-sustaining to the full extent possible, and the head of each Federal agency is authorized by regulation ... to prescribe therefor such fee, charge, or price, if any, as he shall determine, in the case none exists, or redetermine, in case of any existing one, to be fair and equitable taking into consideration direct and indirect cost to the Government, value to the recipient, public policy or interest served, and other pertinent facts, and any

> amount so determined or redetermined shall be collected and paid into the Treasury as miscellaneous receipts....

31 U.S.C. § 483a, recodified without substantive change, 31 U.S.C. § 9701.

The principal interpretation of the IOAA is Bureau of the Budget Circular A-25 which states that a fee should be assessed against each identifiable recipient of a measurable unit or amount of Government service or property from which such recipient receives a special benefit. Specifically, Circular No. A-25 provides:

> 3. General Policy. A reasonable charge ... should be made to each identifiable recipient for a measurable unit or amount of Government service or property from which he derives a special benefit.
>
> a. Special services.
>
> (1) Where a service (or privilege) provides special benefits to an identifiable recipient above and beyond those which accrue to the public at large, a charge should be imposed to recover the full cost to the Federal Government of rendering that service. For example, a special benefit will be considered to accrue and a charge should be imposed when a Government-rendered service:
>
> (a) Enables the beneficiary to obtain more immediate or substantial gains or values (which may or may not be measurable in monetary terms) than those which accrue to the general public (e.g., receiving a patent, crop insurance, or license to carry on a specific business); or
>
> (b) Provides business stability or assures public confidence in the business activity of the beneficiary (e.g., certificates of necessity and convenience for airline routes, or safety inspection of craft); or
>
> (c) Is performed at the request of the recipient and is above and beyond the services regularly received by the same industry or group or of the general public (e.g., receiving a passport, visa, airman's certificate, or an inspection after regular duty hours).

Bureau of the Budget Circular No. A-25 (September 23, 1959) (emphasis added).

In National Cable Television Ass'n v. FCC, 415 U.S. 336, 342

(1974), the Supreme Court reviewed the IOAA and determined that agencies had authority to charge fees to recipients of "special benefits," but that agencies could not tax such recipients. In a companion case, the Court adopted as "the proper construction of the Act" Budget Circular No. A-25. Federal Power Commission v. New England Power Co., 415 U.S. 345, 351 (1974).

The parties agree that the IOAA and Circular A-25 set forth the relevant authority of the Commission to promulgate these rules. In addition, the parties agree that under the established precedent which construes the IOAA and Circular A-25, the transfer of a "special benefit" to an identifiable recipient is a prerequisite for establishing a lawful fee by an agency. While they rely on identical authority, the parties differ regarding on the meaning of the term "special benefits." In addition, they disagree on the effect that public versus private "benefits" have on an agency's authority to assess fees.

Petitioners argue that the NGA and the NGPA were enacted with the primary purpose of benefiting the public. They argue that the principal purpose of the NGA and the NGPA is to control the profits of enterprises that are perceived to have monopoly control over certain natural resources. The focus of the Acts is upon reducing rates, a function benefiting the public, not the regulated entity. Any "special benefits" conferred by the FERC under the NGA or the NGPA accrue to the general public not to the regulated industries. Therefore under the IOAA the cost of providing "special benefits" to the public cannot be assessed against and borne by petitioners. The Commission's response to this argument is that as long as a "special benefit" runs to the regulated entity, an agency may assess a fee, even if the public also benefits from the regulation.

Both the Commission and petitioners rely on National Cable Television Ass'n v. FCC, 554 F.2d 1094 (D.C. Cir. 1976) (National Cable II), Electronic Industries Ass'n v. FCC, 554 F.2d 1109 (D.C.

Cir. 1976), Mississippi Power & Light Co. v. NRC, 601 F.2d 223 (5th Cir. 1979), cert. denied, 444 U.S. 1102 (1980), and our decision in Nevada Power Co. v. Watt, 711 F.2d 913 (10th Cir. 1983) to support their positions. We believe these cases which interpret and apply the IOAA are dispositive.

In National Cable II, petitioners there challenged the Federal Communication Commission's (FCC) assessment of an annual authorization fee to recover the costs associated with the processing of applications and tariff filings. After noting that under the rules of the FCC "[n]o cable television system shall commence operations or add ... to existing operations unless it receives a certificate of compliance from the Commission," 554 F.2d at 1101 (quoting 47 C.F.R. § 76.11(a)(1975)) (emphasis in original), the court held: "The issuance of a certificate of compliance under 47 C.F.R. § 76.11(a) is a service rendered by the FCC to the cable operators, and the agency is fully justified in seeking reimbursement of any expenses incurred in performing that service." Id. Under the court's reasoning, the FCC "service" is to permit the cable companies to operate at all.

In Electronic Industries Ass'n v. FCC, 554 F.2d 1109, (D.C. Cir. 1976), the companion case to National Cable II, the court elaborated upon the types of services provided to regulated entities for which an agency may assess a fee under the IOAA. While "service" is defined in Budget Circular No. A-25, supra, to include a "license to carry on a specific business" or "assuring public confidence in the business activity of the beneficiary," the court expanded "service" to include assisting beneficiaries in complying with a statute:

> [An agency] is entitled to charge for services which assist a person in complying with his statutory duties. Such services create an independent private benefit.... Although [the statute at issue] was enacted in order to protect the public against excessive or unreasonably discriminating or preferential charges, that result is only an incidental benefit from the service which is rendered by the agency, i.e., assisting the carriers in complying with the statute.

Id. at 1115.

In Mississippi Power & Light Co. v. NRC, 601 F.2d 223 (5th Cir. 1979), the court considered the precise issue raised by the petitioners in the case at bar. Petitioners in Mississippi Power challenged the NRC's entire fee schedule which is designed to recover the costs for processing applications, permits, and licenses as well as the costs arising from health and safety inspections and statutorily mandated environmental and anti-trust reviews. Petitioners argued that the NRC was without legal authority to assess any fee against an applicant because all of the NRC's activities furthered the "public interest" and therefore any charge assessed must necessarily be a tax.

After reviewing the legal precedents with respect to the IOAA, the court reasoned as follows: "A license from the NRC is an absolute prerequisite to operating a nuclear facility, and as such, is a benefit 'not shared by others members of society.' ... [T]o accept petitioners' argument would mean that no Federal agency could assess any fees, since all public agencies are constituted in the public interest." Id. at 229.

Finally, in Nevada Power Co. v. Watt, 711 F.2d 913 (10th Cir. 1983) we considered the validity of a fee assessed by the Department of the Interior to cover the cost of an environmental impact statement (EIS) when an application for right of way under the Federal Land Policy Management Act (FLPMA) triggers the National Environmental Policy Act (NEPA). In response to the utilities' argument that an EIS inures solely to the benefit of the general public, we held that because the EIS is a necessary prerequisite to the receipt by the applicant of a special benefit -- the grant of a right of way -- "Interior is not restrained by the doctrine laid out in National Cable and New England Power Co. from charging the full cost of such EIS to the applicant." Id. at 930.

The analysis in these cases disposes of petitioners' argument that the fees established by FERC are not authorized under the

IOAA as a matter of law because the agency's services benefit the public. As these cases make clear, where an agency performs a service from which a regulated entity derives a "special benefit," it may charge a fee, even though the public also benefits. Moreover, the term "special benefit" is broadly defined to include even assisting regulated entities in complying with regulatory statutes. Electronic Industries Ass'n, 554 F.2d at 1115.

We hold the petitioners' "public benefit theory" does not preclude the FERC from assessing fees as a matter of law if "special benefits" to a regulated entity can be reasonably inferred from an agency's regulatory scheme. "Special benefits" are broadly defined and as long as they are identified the regulatory agency is authorized to assess fees for its costs in conferring these "benefits." As our discussion below will show, the FERC rules under review impose fees for services to the petitioners which under the FERC regulatory scheme will enable the petitioners to engage in their respective activities or to comply with the NGA or the NGPA. Thus, we cannot hold as a matter of law that FERC was without authority to establish fees for its services in promulgating orders 360, 361, 394 and 395.

III. RULEMAKING

Petitioners contend that the Commission acted improperly in several respects in promulgating the rules under review. We reiterate that we must uphold the Commission's action unless we find they were "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law." 5 U.S.C. § 706(2)(A). "Regulations must be set aside if they are arbitrary, capricious or an abuse of discretion, 5 U.S.C. § 706(2)(A), or if the agency has acted in excess of its statutory jurisdiction, 5 U.S.C. § 706(2)(C). Deference is accorded administrative regulations. Conway v. Watt, 717 F.2d (10th Cir.). This court has frequently applied the "rational basis" standard to agency actions." Wyoming Hospital Ass'n v. Harris, 727 F.2d 936, 938-39 (10th Cir. 1984).

"A reviewing court may not substitute its judgment for an agency's and must affirm an agency's decision if a rational basis for it is presented." KCST-TV, Inc. v. FCC, 699 F.2d 1185, 1191 (D.C. Cir. 1983) (citing Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 416 (1971)).

Petitioners contend that even if we deem the fees to be authorized under the IOAA, which we do, the Commission has failed to include evidence in the record to demonstrate that the Commission's services confer a benefit on the regulated entities. Our review of the record reveals that the Commission did identify the benefits it confers on fee payors when it promulagated FERC orders 360, 361, 394, and 395. (R., Vol. I., pp. 4-8; R., Vol. II, pp. 7-12; R., Vol. III, pp. 6-10; R., Vol. IV, pp. 4-8.) For example, in its Notice of Proposed Rulemaking for FERC order 360, the Commission noted that "[a] blanket small producer certificate under section 7 (c) of the NGA benefits the applicant by exempting the applicant from certain otherwise applicable filing requirements." (R., Vol. I, p. 6.)

Another benefit the Commission noted concerned the issuance of a Certificate of Public Convenience and Necessity: "A Certificate of Public Convenience and Necessity under Section 7(c) benefits the applicant by allowing the applicant to engage in the business of sale or resale of natural gas. Without a Certificate, a producer would be precluded by Section 7(c) of the NGA from selling natural gas for resale in the interstate market." Id. The Commission also stated that it was not including certain costs in determining its fees. "As mentioned above, the Commission is not proposing in this rulemaking to charge fees for other actions it takes relating to gas producers under the NGA. These actions include preliminary and formal enforcement of investigations, settlement and administrative litigation, news releases, litigation in the courts, and rulemakings." (R., Vol. I, p. 7.)

For each of the rules we are asked to review, the Commission identifies the benefits which it believes are conferred upon the regulated entity applying for the Commission's services. It appears from the record before us that the Commission gave careful consideration to the requirements of the IOAA. We hold that the Commission did not act arbitrarily or capriciously in demonstrating that its services confer a benefit on fee payors.

Petitioners next contend that the Commission is required to apportion the fees between regulated industries and the public; in other words, the fees must reflect the value of the service conferred on the regulated entities and the Commission must exclude from the fees expenses incurred to serve an independent public interest. We considered this very argument in Nevada Power, supra. Relying on the analysis in Mississippi Power, supra, we held that under the IOAA and controlling precedents, the full costs of providing a service to regulated entities can be assessed regardless of the benefit flowing to the public.

> The utilities argue that National Cable and New England Power Co. support their EIS argument, reasoning that an EIS primarily benefits the public and thus cannot be charged to an applicant. Interior disagrees, citing Mississippi Power.... In Mississippi Power, the Fifth Circuit examined both National Cable and New England Power Co., and then held that the NRC could "recover the full cost of providing a service to an identifiable beneficiary, regardless of the incidental public benefits flowing from the provision of that service." ... Accordingly, the court held that the Commission could recover from a license applicant the full costs of conducting environmental reviews required under NEPA "because they are a prerequisite to the issuance of a license.... The Commission must conduct these reviews before it can issue a license to an applicant; it is a necessary part of the cost of providing a special benefit to the licensee. In other words, it is 'incident to a voluntary act.'" ... It mattered not that there was an "obvious public benefit flowing from the preparation of these environmental reviews."

711 F.2d at 930 (citations omitted).

We again reject the argument that an agency may not assess the full cost of its services against a regulated entity. We uphold the amount of the Commission's fees in FERC orders 360, 361, 394, and 395.

Petitioners next contend that the Commission's rules unlawfully prohibit them from recovering the cost of these fees from the consumers by increasing statutory price ceilings. Petitioners argue that by refusing to permit cost recovery, the Commission has violated the "just and reasonable" standard of the NGA and has unlawfully reduced prices established under the NGPA. Petitioners maintain that they are entitled to recover prudently incurred costs necessary to perform price regulated services.

Under 15 U.S.C. §§ 3314(b)(2), 3316(c), and 3320(a)(2) the petitioners argue that they are _entitled_ to have the ceiling prices increased to a just and reasonable level taking into consideration the Commission's new fees. The language of the NGPA makes it clear, however, that an increase in ceiling prices, for whatever reasons, is wholly within the discretion of the Commission. The Commission considered the petitioners' contention and rejected their arguments. (R., Vol. I, p. 305.) Under the circumstances, we hold that the Commission's decision refusing to permit the petitioners to pass the cost of the fees onto their consumers is not arbitrary, capricious or contrary to law.

Finally, petitioners contend that the "direct billing procedure" established by the Commission in orders 360, 361, 394, and 395 is unlawfully vague because the Commission failed to state specific standards for determining when a tariff filing will trigger "direct billing." The Commission describes the "direct billing procedure" in order 361, "Final Rule." This description also applies to the direct billing procedure provided in the other orders.

> [T]he Commission occasionally receives filings which are not average. These filings may be extensive in scope and present factual, legal, or policy issues of such complexity that the Commission may devote an extraordinary amount of time and effort to processing them. In addition, there may not be a truly representative average due to the small number of filings in a particular area.
>
> The standard fees established in this rule bear no reasonable relationship to the actual costs of processing those extraordinary and atypical filings.

> Moreover, if the costs of processing extraordinary filings are included in the costs associated with average filings, persons submitting average filings would be subsidizing those submitting the extraordinary filings. Therefore, in the case of an extraordinary filing, the Commission reserves the option of ordering a direct billing procedure at the beginning of processing the filing or at any time up to one year after receiving a complete filing. As discussed above, in the case of petition seeking advance Commission approval of rate treatment of research, development, and demonstration of expenditures, the Commission has decided to use direct billing for the entire fee category due to the unavailability of reliable data to establish an average fee.
>
> Under the direct billing procedure, the Commission will periodically bill the entity who submitted the filing for all the direct and indirect costs incurred by the Commission in processing the filing, unless a lesser amount is determined to be fair and equitable. The staff resources devoted to processing a filing resulting in a direct billing will be separately recorded and will not be included in the work-months associated with processing average filings. This final rule also requires the Commission to credit an applicant whose filing becomes subject to direct billing with any fee paid under this fee system.

(R., Vol. II, pp. 325-27.)

We hold that the "direct billing procedure" established in orders 360, 361, 394, and 395 is in accord with the IOAA and controlling law, and the Commission's procedure is not arbitrary or capricious. We have previously held that a regulation promulgated by an administrative agency charged with the administration of an Act (the IOAA) has the force and effect of law if it is reasonably related to administrative enforcement and does not contravene statutory provisions. United States v. Barnard, 255 F.2d 583 (10th Cir. 1958). Based on the scheme provided for processing and assessing fees for "average filings," we do not believe the direct billing procedure is a pretext for fees which the Commission "arbitrarily" decided not to establish.

Petitioners also raise several peripheral arguments which we find to be without merit. In summary, we hold that the Commission has the authority to recover the full costs of providing services to identifiable beneficiaries under the IOAA. We uphold the fees promulgated by the Commission as being consistent with this principle. We also hold that the Commission did not act arbitrarily, capriciously, or beyond legal authority in establishing the fees and promulgating orders 360, 361, 394, and 395 and in setting the fees at issue.

AFFIRMED.

Question: Can we extend this rationale to other regulatory agencies, such as EPA?

Answer: The Administration has proposed the imposition of user fees by other Federal agencies which provide services directly benefiting narrow, clearly identifiable groups of business and private users. Such user fees have several important advantages over the use of general revenue financing for the provision of Government services. These advantages, as outlined in The Budget of the United States Government, 1987, include:

1) it is more equitable for those receiving direct benefits to pay for them;

2) it is more efficient for these types of Government services to be allocated to those willing to pay for them; and,

3) cost-based user fees give more incentive for the private sector to provide such services--at lower cost to the taxpayer.

SUBCOMMITTEE RECESS

Senator BURDICK. With that, the committee is recessed until Thursday when we will hear from the Power Marketing Administrations.

[Whereupon, at 3:15 p.m. Tuesday, March 18, the subcommittee was recessed to reconvene at 2 p.m. Thursday, March 20.]

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